DAEWOO

Service Manual

Television-Video Cassette Recorder

CHASSIS : CP-420

MODEL : DVT-14F6 LA/PA/FA/DA/HA
DVT-20F6 LA/PA/FA/DA/HA
DVT-14F8 LA/PA/FA/DA/HA
DVT-20F8 LA/PA/FA/DA/HA

DAEWOO ELECTRONICS CO., LTD.

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1. SPECIFICATIONS

1-1. TV PART

TV STANDARD	PAL B/G (F. FA MODEL), PAL BIG SECAM-L(L. LA MODEL) PAL I (P.PA MODEL) PAL/SECAM B/G D/K (D. DA MODEL)
SCREEN SIZE	14" : 34cm (A34JLL90X) 20" : 48cm (A48JLL90X) 21" : 51cm (A51EAL55X01)
MAIN VOLTAGE	230V AC 50Hz, 110~250V AC 50Hz(DA MODEL)
POWER CONSUMPTION	STAND BY MODE : BELOW 3 Watts OPERATION MODE : 14" = 68 Watts 20" = 78 Watts 21" = 88 Watts
SOUND OUTPUT	1.5 Watts (at 60% mod. , 10% THD)
SPEAKER	3 Watts 16 Ohm
ANTENNA IMPEDANCE	75 Ohm unbalanced input
TUNING SYSTEM	FS (FREQUENCY SYNTHESIS) TUNING
RECEPTION CHANNEL UNIT	VHF-L : E2 - S7 VHF-H : S8 - S36 UHF : S37 - E69
MEMORY CHANNEL	70 PROGRAMS
AUX. TERMINAL	RCA TYPE AV INPUT JACK HEADPHONE JACK (3.5mm ∅)
REMOTE CONTROLLER	R-35 with 2 "AA" type batteries
TELETEXT	8page memory TOP and FLOF - West option : German/Deutch/Flemish,French,Italian, Spanish/Portuguese,Swedish/Finnish/Danish,Czech/Slovak -East option : Polish,Czech/Slovak,Rumanian,Hungarian,Servocroat German/Deutch/Flemish,French,Italian -Turkish option : Turkish,English,German/Deutch/Flemish,French, Italian,Spanish/Portuguese,Swedish/Finnish/Danish -Cyrillic option : Russian,Lettish/Lithuanian,Estonian,Ukranian, Czech/Slovak,Servocroat,English
OTHER FEATURE	ON SCREEN DISPLAY,SLEEP TIMER,ON/OFF TIMER AUTO TUNING CHILD LOCK TELETEXT PICTURE TYPE SELECTION 2-TUNER,TV/AV
WEIGHT	14" : 13.8kg(set) 20" : 23.6kg(set) 21" : 26.2kg(set)

1-2. VCR PART

GENERAL	temperature	5℃ ~ 35 ℃ (operating) -20 ℃ ~ 60 ℃ (storage temperature)
	format	standard
	tape width	12.65 mm
	tape speed	SP : 23.39mm/sec LP : 11.70mm/sec
	max. recording time with fullsize cassette	SP : 240min. with E-240 video cassette
		LP : 480min. with E-240 video cassette
AUDIO	recording system	longitudinal track
	input	-3.8dBm(500mVrms), more than 47Kohms, unbalanced.
	output	-3.8dBm(500mVrms),less than 1Kohm, unbalanced
	frequency range	100Hz to 8KHz
	signal to noise ratio	40dB(more than)
VIDEO	signal system	PAL/SECAM colour and CCIR mono chrome signals, 625lines/50fields.
	recording system	Rotary 2-head herical scan with a slant double azimuth combination video head.
	input	1Vp-p, 75 ohms, unbalanced
	output	1Vp-p, 75 ohms, unbalanced
	signal to noise ratio	45dB with NETTETE IMAGE control at center position.
	horizontal resolution	240 lines with NETTETE IMAGE control at center position

* Design and specifications can be subjected to change without notice.

CHANNEL COVERAGE

SYSTEM	PAL,SECAM-B/G PAL-I/I PAL,SECM-B/G,DK HYPER BAND	PAL,SECM-B/G HYPER BAND	PAL-I	OAK-B/H
CHANNEL	VHF ch 2 - 12 UHF ch 21 - 69 CATV ch X,Y,Z,S1-S41	VHF ch 2 - 12 UHF ch 21 - 69 CATV ch X,Y,Z,S1-S41	UHF ch21 -69	VHF LOW ch 1A- 5 VHF HIGH ch 5A-N11 UHF ch 21 - 69

IN/OUTPUT JACK TYPE

MODEL	EUROPE	MIDDLE EAST,ASIA,CIS AUSTRALIA
JACK TYPE	SCART TPYE & RCA TYPE	RCA TYPE

2. SAFETY INSTRUCTION

WARNING	BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" BELOW.

2-1. X-RAY RADIATION PRECAUTION

1. Excessive high voltage can produce potentially hazardous X-RAY RADIATION.To avoid such hazards, the high voltage must not exceed the specified limit. The nominal value of the high voltage of this receiver is 22-23kv(14"), 25-26kv(20", 21") at max beam current.
   The high voltage must not, under any circumstances, exceed 27.5kv (14", 20"), 29.0kv(21").
   Each time a receiver requires servicing, the high voltage should be checked. It is recommended the reading of the high voltage recorded as a part of the service records. it is important to use an accurate and reliable high voltage meter.
2. The only source of X-RAY Radiation in this TV receiver is the picture tube. For continuous RADIATION protection, the replacement tube must be exactly the same type tube as specified in the parts list.

2-2. SAFETY PRECAUTION

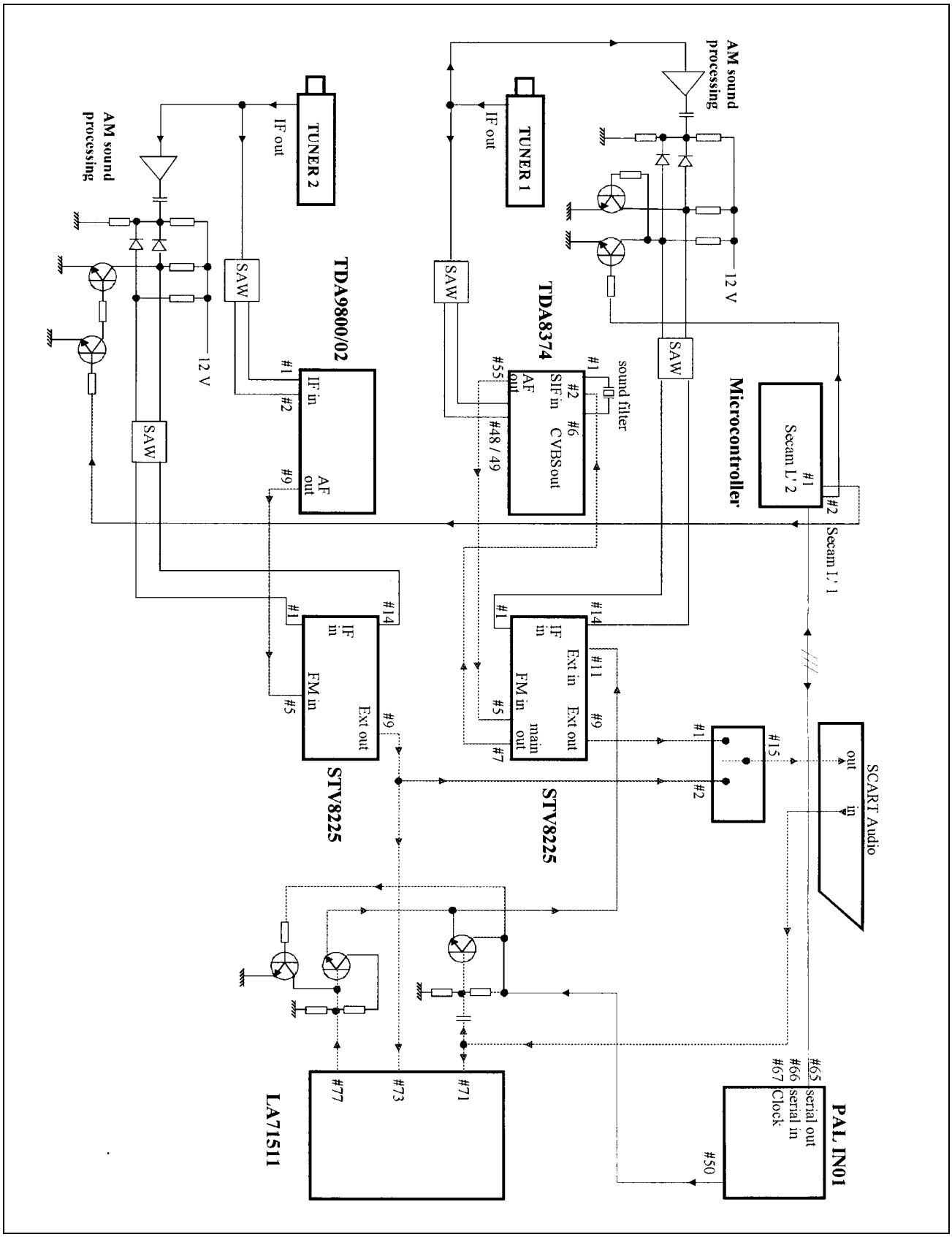
1. Potentials of high voltage are present when this receiver is operating. Operation of the receiver outside the cabinet or with the back cover removed involves a shock hazard from the receiver.
   1) Servicing should not be attempted by anyone who is not thoroughly familiar with the precautions necessary when working on highvoltage equipment.
   2) Always discharge the picture tube to avoid the shock hazard before removing the anode cap.
   3) Discharge the high potential of the picture tube before handling the tube. The picture tube is highly evacuated and if broken, glass fragments will be violently expelled.
2. If any Fuse in this TV receiver is blown, replace it with the FUSE specified in the Replacement Parts List.
3. When replacing a high wattage resistor(oxide metal film resistor) in circuit board, keep the resistor 10mm away from circuit board.
4. Keep wires away from high voltage or high temperature components.
5. This receiver must operate under AC260 volts, 50Hz/60Hz.
   (AC 100~250 volts, 50/60Hz)NEVER connect to DC supply or any other power or frequency.

2-3. PRODUCT SAFETY NOTICE

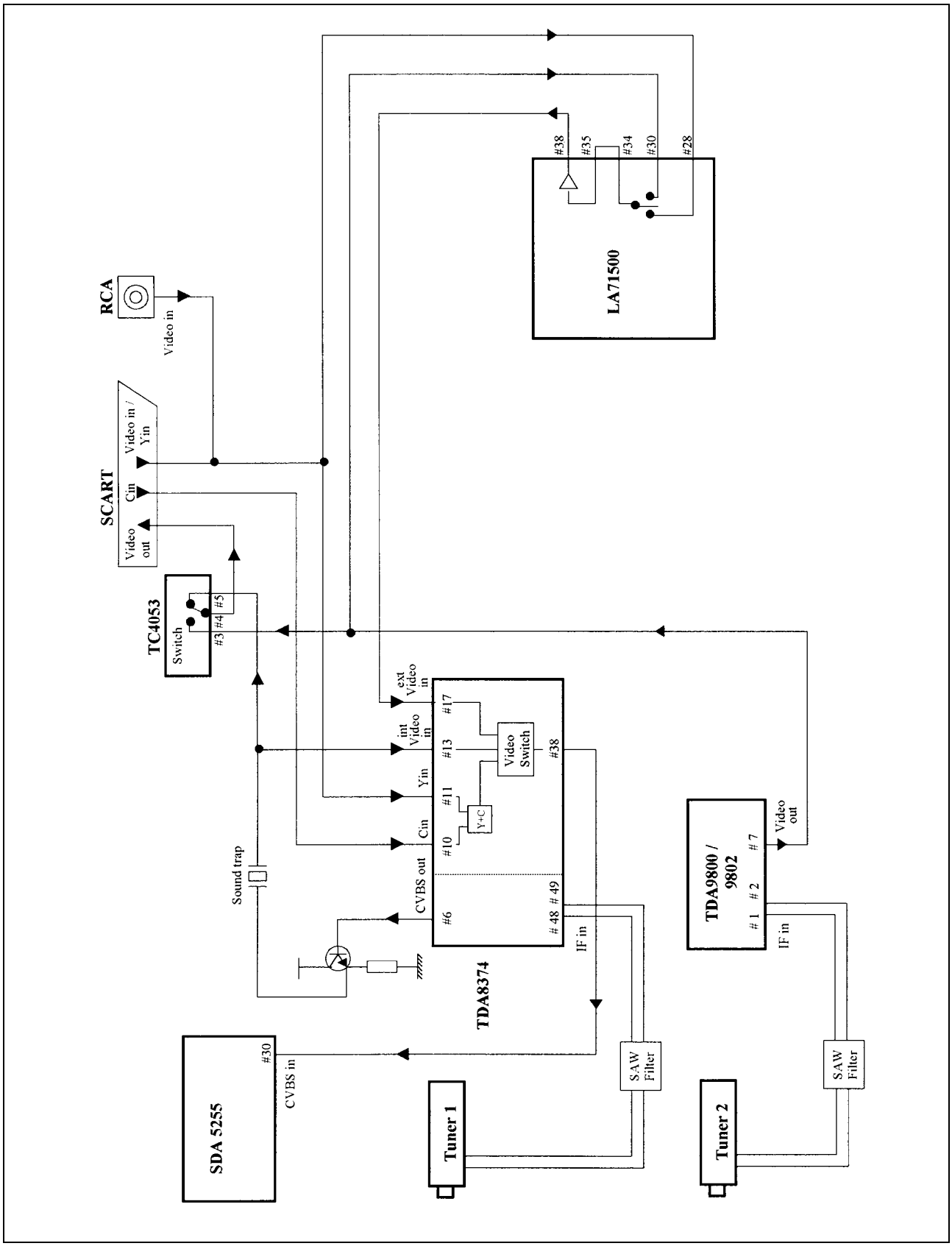
Many electrical and mechanical parts in this chassis have special safety-related characteristics.
These characteristics are often passed unnoticed by a visual inspection and the X-RAY RADIATION protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this manual and its supplements, electrical components having such features are identified by designated symbol on the parts list. Before replacing any of these components, read the parts list in this manual carefully.
The use of substitute replacement parts which do not have the same safety characteristics as specified in the parts list may created X-RAY Radiation.

3. BLOCK DIAGRAM

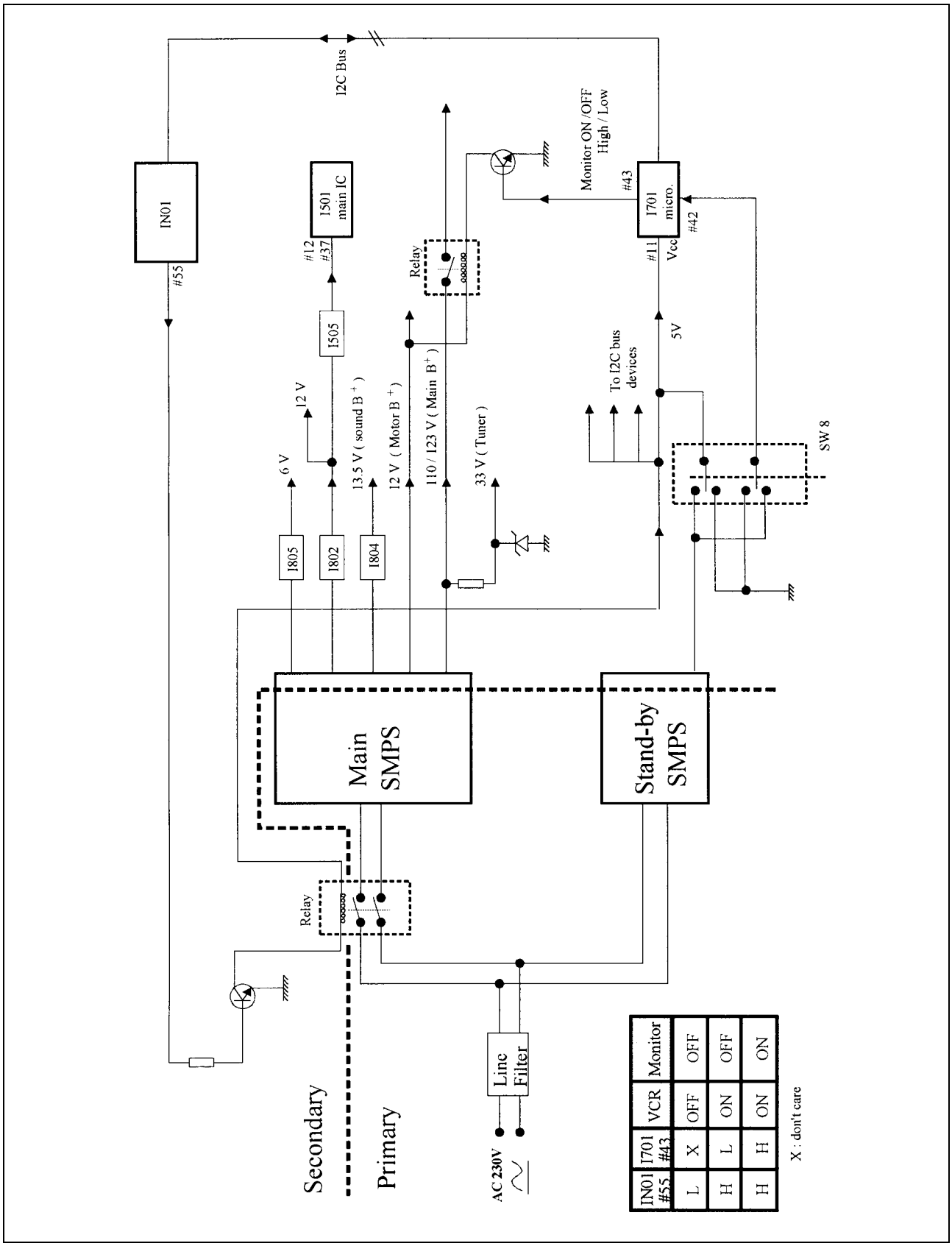
3-1. Audio Signal Flow



3-2. Video Signal Flow



3-3. TV and monitor power switching



IN01 #55	I701 #43	VCR	Monitor
L	X	OFF	OFF
H	L	ON	OFF
H	H	ON	ON

4. ALIGNMENT INSTRUCTIONS

4-1. MAIN TUNER AFT

1. STANDARD B/G

1) Set a signal generator with
   - RF FREQUENCY = 38.9 MHz
   - RF OUTPUT LEVEL = 80 ± 5 dBuV
2) Connect the signal generator RF output to TP1 (TUNER IF OUTPUT)
   There must be no signal input to the TUNER.
3) Press the "VCO" KEY and wait until the TV screen display "AFT OK"

4-2. SUB TUNER AFT

1. STANDARD B/G

1) Set a signal generator with
   - RF FREQUENCY = 38.9 MHz
   - RF OUTPUT LEVEL = 80 ± 5 dBuV
2) Connect the signal generator RF output to TP2 (TUNER IF OUTPUT)
3) Connect the DC voltage meter to TP3.
4) Adjust L201 (AFT COIL) for 2.2V ± 0.1V.

4-3. MAIN TUNER AGC

1) Set a Pattern Generator with RF level 60 ± 2 dBuV, 210.25 MHz.
2) Connect a OSCILLOSCOPE PROBE to P101 (TUNER AGC INPUT).
3) Adjust AGC UP/DOWN KEY the voltage drop about 1.8V DC over below it's maximum voltage.

4-4. SUB TUNER AGC

1) Set a Pattern Generator with RF level 60 ± 2 dBuV, 210.25 MHz.
2) Connect a OSCILLOSCOPE PROBE to P101 (TUNER AGC INPUT).
3) Press the "SUB AGC" KEY and monitoring the SUB TUNER PICTURE.
4) Adjust R202 (SUB AGC VR) the voltage drop about 1.8V DC over below it's maximum voltage.

4-5. SCREEN

1) Apply a COLOR BAR PATTERN SIGNAL.
2) Press the "SCREEN" KEY .
3) Connect a OSCILLOSCOPE PROBE to P906 (CRT CATHODE R,G,B)
4) Adjust the screen volume on FBT such that the highest black level voltage 130 ± 5Vdc .

4-6. WHITE BALANCE

1) Apply a COLOR BAR PATTERN SIGNAL.
2) Adjust the R,G,B UP/DOWN KEY of the other color which did not appear on the screen to obtain WHITE.

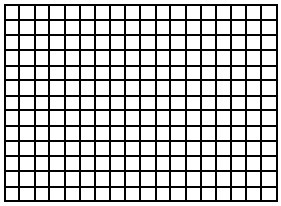
4-7. FOCUS

1) Apply a RETMA PATTERN SIGNAL.
2) Adjust the FOCUS VOLUME on FBT to obtain optimal resolution.

4-8. GEOMETRY

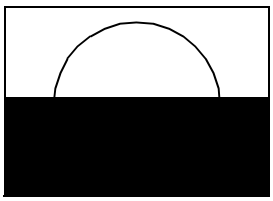
1. S-CORRECTION

1) Apply a CROSSHATCH PATTERN SIGNAL.
2) Adjust the S-CORR UP/DOWN KEY obtain the same distance between horizontal lines.



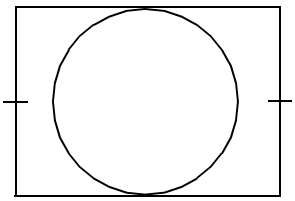
2. VERTICAL SLOPE

1) Apply a RETMA PATTERN SIGNAL.
2) Pressing the V-SLOPE +/- KEY,the lower half of the screen is blanked.
2) Adjust the border line of blanked picture coincident with the center marks of the pattern using the V-SLOPE +/- KEY.



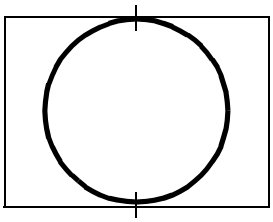
3. VERTICAL CENTER

1) Apply a RETMA PATTERN SIGNAL.
2) Adjust the center line of pattern coincident with the mechanical center marks of the CRT using the V-CENTER +/- KEY.



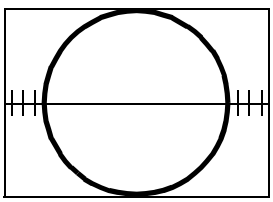
4. VERTICAL SIZE

※ The V-CENTER adjustment has to be done in advance.
1) Apply a RETMA PATTERN SIGNAL.
2) Adjust the upperside of the pattern coincident with the mechanical center marks of the CRT using the V-SIZE +/- KEY.



5. HORIZONTAL CENTER

1) Apply a RETMA PATTERN SIGNAL.
2) Adjust picture centering with H-CENTER +/- KEY.

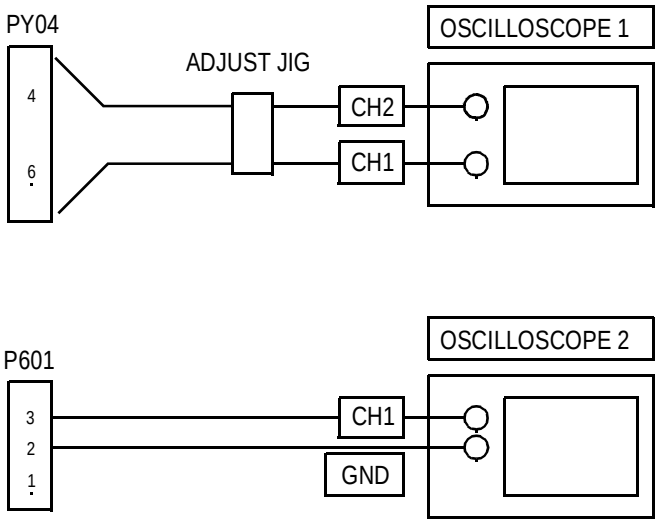


4-9. ADJUSTMENT

1. X-POSITION AND P2,P3 ADJUSTMENT

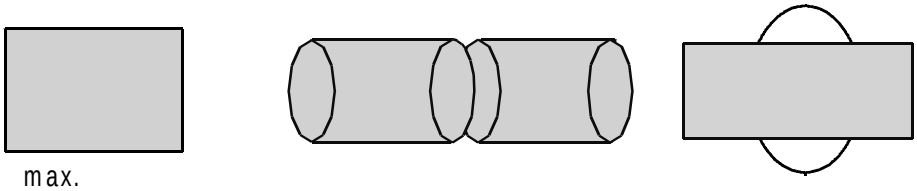
1) Adjust point : X-POSITION
   Checking point : oscilloscope ch1 = H/SW (PY04 #6)
   oscilloscope ch2 = PB ENVE (PY04 #4)
   Triggering : CH1
   Measuring Equipment : oscilloscope, path jig
   Mode : PLAYBACK,ATK OFF
   Test tape : DP-2 (6KHz)

CONNECTION METHODE



■ **Adjustment Procedure**

1) Connect the PATH JIG to PY04 after Test tape PLAYBACK
2) Pressing the "ATK OFF" KEY.
3) Insert the DP-2 TAPE. (Auto playback)
3) Adjust the waveform of PB ENVE to maximum(figure1) using X-position VR.
4) Adjust IN/OUTPUT GUIDE until the exact waveform appear as bellow figure2.



max.
(figure 1)

(figure 2)

2. AUTO PG ADJUSTMENT

1) After adjustment of 9-1. Press the " REC." button.
2) Eject the Test tape.

3. AZIMUTH ADJUSTMENT

1) Adjust point : AZIMUTH SCREW
   Checking point : SOUND OUTPUT (P601)
   Measuring Equipment : oscilloscope or audio level meter.
   Mode : PLAYBACK
   Test tape : DP-2 (6KHz)

■ Adjustment Procedure

1) Connect the measuring equipment to the AUDIO OUTPUT (P601) terminal.
2) After test tape playback, adjust the output level maximally by varing the azimuth screw.
   (6KHz -3.8dBm +1dBm/-3dBm)
3) Fix the azimuth screw with locking paint.

※ If EEPROM (I703) has been changed :
- Option data has to be changed and
- all alignment function has to be readjusted.

■ SECAM-L AFT

1. MAIN TUNER AFT

1.1 STANDARD SECAM-L
1) Set a signal generator with
   - RF FREQUENCY = 34.5 MHz
   - RF OUTPUT LEVEL = 80 ± 5 dBuV
2) Connect the signal generator RF output to TP1 (TUNER IF OUTPUT)
   There must be no signal input to the TUNER.
3) Press the "VCO-L" KEY and wait until the TV screen display "AFT-L OK"

2. SUB TUNER AFT

2.1 STANDARD SECAM-L
1) Select the PR. of received SECAM-L
2) Set a signal generator with
   - RF FREQUENCY = 34.2 MHz
   - RF OUTPUT LEVEL = 80 ± 5 dBuV
3) Connect the signal generator RF output to TP2 (TUNER IF OUTPUT)
4) Connect the DC voltage meter to TP3.
5) Adjust R240 (AFT VR) for 2.2V ± 0.1V.

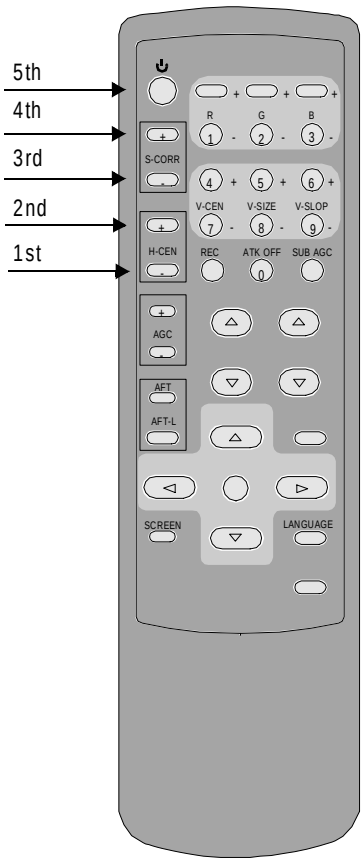
5. SERVICE REMOCON DIAGRAM

5-1. HOW TO CHECK TV SECTION WITHOUT VCR DECK

IF YOU WANT TO CHECK TV SECTION WITHOUT DECK MECHANISM, THEN PLEASE PERFORM IN THIS ORDER.

1. PULL OUT THE POWER CORD.
2. REMOVE THE VCR DECK MECHANISM.
3. SUPPLY THE MAIN POWER. (MAIN SW ON)
4. WAIT FOR ABOUT 10 SECONDS. (YOU CAN SEE THE LIGHT OF POWER LED IF THE TV IS NORMAL)
5. TURN ON THE TV USING THE REMOCON.(YOU CAN SEE THE OSD 'EMERGENCY')
6. CHECK THE TV SECTION.

5-2. REMOCON



To Enter The " SERVICE MODE "
Press blue, yellow, green, red power buttons in regular sequency within five seconds using USER REMOCON after seting TV/VCR off.

5-3. REFER TO GENERAL ADJUSTMENT

1. S-CORR +/- (S-CORRECTION)

Press this button to adjust the same distance between horizontal lines on screen of crosshatch pattern.

2. H-CENTER +/- (HORIZONTAL CENTER)

Press this button to adjust picture centering with H-center on screen of RETMA pattern.

3. V-CENTER +/- (VERTICAL CENTER)

Press this button to adjust the center line of the pattern coincident with the mechanical center marks of the CRT on screen of RETMA pattern.

4. V-SIZE +/- (VERTICAL SIZE)

Press this button to adjust the upperside of the pattern coincident with the mechanical center marks of the CRT on screen of RETMA pattern.

5. V-SLOPE +/- (VERTICAL SLOPE)

Press this button to adjust the border line of blanked picture coincident with the center marks of the pattern.

6. R,G,B +/- (WHITE BALANCE)

The screen is become WHITE adjusted R,G,B level by this button.

7. ATK OFF (Auto tracking off)

Press this button to adjust X-PATH adjustment.
FRONT panel's LEDs are lighted up if you press this button. (without TAPE)

8. SUB AGC

Press this button to adjust SUB TUNER AGC Adjustment.
Press once : picture is displayed colour pattern.
Press twice : picture is displayed black/white pattern.

9. REC

Press this pattern to adjust AUTO PG Adjustment.

10. LANGUAGE

Press this button to adjust LANGUAGE SELECTION.

11. SCREEN

Press this button to adjust the screen volume on FBT.

12. AGC +/-

Press this button to adjust MAIN TUNER AGC.

13. AFT

Press this button to adjust VCO.

14. AFT-L

Press this button to adjust VCO-L. (only use the SECAM-L model.)

15. POWER

Press this button to turn your TV/VCR on or off.

If you forget your " child lock secret No. "

1. Enter the " SERVICE MODE. "¢†
2. POWER OFF/ON

6. IC DESCRIPTION

6-1. SDA5255 (Micro controller & Teletext Decoder)

1. General description

The TDA5255 contains a slicer for VPS and TTX, an accelerating acquisition hardware module, a display generator for "LEVEL1"TTX data and a 8bit u-controller running at 333nsec cycle time.
The controller with dedicated hardware guarantees flexibility, does most of the internal processing of TTX acquisition, transfers data to/from the external memory interface and receives/transmits data via IIC and UART user interfaces.
The Slicer combined with dedicated hardware stores TTX data in a VBI 1Kbyte buffer.
The u-controller firmware does the total acquisition task (hamming and parity checks, page search and evaluation of header control bits) once per field.

2. Feature

● Acquisition :
- feature selection via special function register
- simultaneous reception of TTX and VPS
- Fixed framing code for TTX and VPS
- Programmable framing code window for TTX
- Acquisition during VBI
- Direct access to VBI RAM buffer
- Acquisition of packets x26,x27,8/30 (firmware)
- Assistance of all relevant checks (firmware)
- 1-bit framing-code error torelance (switchable)

● **Display**
- Feature selectable via special function register
- 50/60Hz display
- Level 1 serial attribute display pages
- blanking and contrast reduction output
- 8 direct addressable display pages
- 12 x 10 character matrix
- 96 character ROM (standard 90 character set)
- 143 national option characters for 11 languages
- 288 characters for x26 display
- 64 block mosaic graphic characters
- 32 free addressable characters for OSD in expanded character ROM +32 inside OSD box
- double height (TOP/BOTTOM)
- conceal/reveal
- transparent foreground/background inside/outside of a box
- cursor (colour changes from foreground to background colour)
- flash (flash rate 1s)
- programmable horizontal and vertical sync delay
- hardware assisted fast display page erase
- full screen background colour in outer screen

• **Synchronization**

display synchronization to sandcastle or horizontal sync and vertical sync with start/stop oscillator or display synchronization to HS/VS with external clock independent clock systems for acquisition, display and controller.

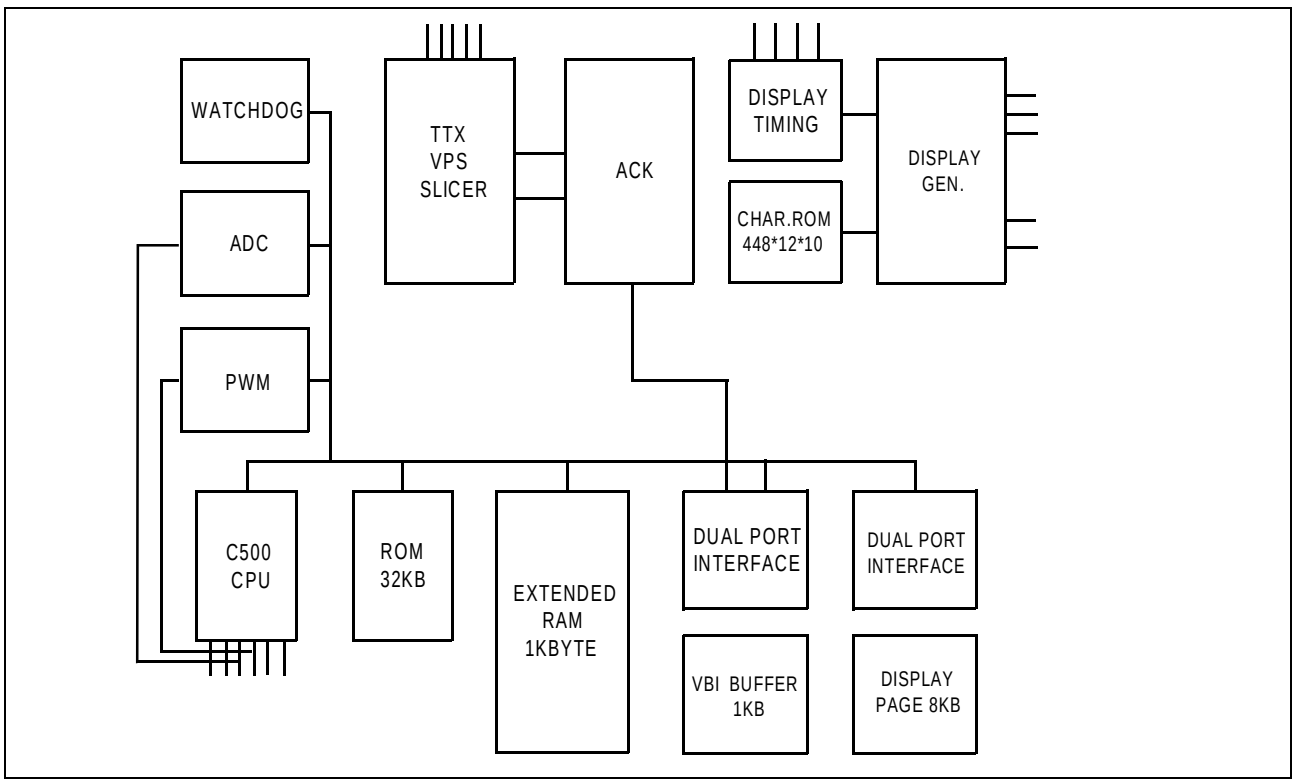
• **Controller**

- 8bit configuration
- 18㎒ internal clock
- 0.33㎲ instruction cycle
- eight 16bit data pointer registers (DPTR)
- two 16bit timers
- watchdog timer
- serial interface (UART)
- 1Kbyte on chip extended RAM (access via MOVX)
- 8Kbyte on chip ACQ buffer RAM (access via MOVX)
- 6channel 8bit PWM unit
- 2channel 14bit PWM unit
- 4multiplexed ADC inputs with 8bit resolution
- one 8bit I/O port with open drain output and optional IIC emulation
- two 8bit multifunctional I/Oports
- one 4bit port working as digital or analog inputs
- one 2bit I/O port with optional address latch enable function

• **P-SDIP 52 package**

• **5V supply voltage**

3. BLOCK DIAGRAM



4. Pin description

PIN	NAME	SYMBOL	DESCRIPTION
1	P3.1	SYS	SECAM-L OUT for switching MAINSAW filter L9461 - SECAM-L' : H - SECAM-L : L
2	P0.7/OPEN DRAIN	SYS	SECAM-L OUT for switching SUB SAW filter L9461 - SECAM-L' : H - SECAM-L : L
3	P0.6/OPEN DRAIN	SDA	SERIAL DATA IN/OUT for IIC
4	P0.5/OPEN DRAIN	SCL	SERIAL CLOCK for IIC
5	P0.4/OPEN DRAIN	OPTION	TVCR : L, MVP : H
6	P0.3/OPEN DRAIN	OPTION	BG : L, SECAM : H
7	P0.2/OPEN DRAIN	TUN-CLK	TUNER CLOCK
8	P0.1/OPEN DRAIN	TUN-DATA	TUNER DATA
9	P0.0/OPEN DRAIN	OPTION	2HD :L, 4HD:H
10	VSS	VSS	GROUND
11	VCC	VCC	POWER SUPPLY
12	X-TAL1	OSC IN	input to inverting osc. amplifer
13	X-TAL2	OSC OUT	output to inverting osc. amplifer
14	P4.0/ALE		
15	RESET	RST	RESET IN(ACTIVE LOW)
16	P1.7/14BIT PWM	CANAL+	CANAL CH RECORD : H
17	P1.7/14BIT PWM	4-STATE	TV/AV,AM/FM
18	P1.7/14BIT PWM	2-STATE	TV-AM/FM
19	P1.7/14BIT PWM	S/SW	SLOW SW IDENT IN for Automatic switching between TV/AV mode - H : AV/RGB MODE - L : TV MODE
20	P1.7/14BIT PWM	MUTE	SPK MUTE : H
21	P1.7/14BIT PWM	GND	GND
22	P1.7/14BIT PWM	F/SW	FAST SW IDENT IN for stopping OSD display in RGB mode - H : TV/AV MODE - L : RGB MODE
23	P1.7/14BIT PWM	OPTION	2 TUNER : L, 1 TUNER : H
24	VSSA	VSSA	Analog GND for slicer
25	FIL3	FIL3	PLL LOOP Filter I/O for Phase Shifting.
26	FIL2	FIL2	PLL LOOP Filter I/O for TTX Slicing.
27	FIL1	FIL1	PLL LOOP Filter I/O for VPS Slicing.

PIN	NAME	SYMBOL	DESCRIPTION
28	VCCA	VCCA	Analog Supply for Slicer
29	IREF	IREF	Reference current for slicer PLLs
30	CVBS	CVBS	CVBS INPUT
31	P2.3/8bit ADC	AFT2	AFT INPUT for SUB TUNER
32	P2.3/8bit ADC	AGC	AGC INPUT for ATS SORTING
33	P2.3/8bit ADC	KEY1	KEY MATRIX INPUT
34	P2.3/8bit ADC	KEY2	KEY MATRIX INPUT
35	VSS	VSS	GROUND
36	P3.3/INT1	IR INPUT	REMOCON IR INPUT
37	VDD	VDD	POWER SUPPLY
38	LCIN	OSC IN	CLOCK IN for OSD
39	LCOUT	OSC OUT	CLOCK OUT for OSD
40	P3.7/TXT/I/O	S/S DATA	SYSCON SERIAL DATA INPUT
41	P3.7/RXD	S/S CLK	SYSCON SERIAL CLOCK
42	P3.4T1	P.DET	POWER DETECTOR : L
43	P3.4T0	MON ON L	TV MONITOR ON : L
44	P3.2INT0	S/S DATA	SYSCON SERIAL DATA OUTPUT
45	HS/SC	H/SYNC	H SYNC IN (Active H)
46	P4.7/VS	V/SYNC	V SYNC IN (Active H)
47	R	R	RED OUT
48	G	G	GREEN OUT
49	B	B	BLUE OUT
50	BLANK	BL	BLANKING OUT
51	COR	COR	CONTRAST REDUCTION OUT
52	P3.0	EVEN/ODD	EVEN/ODD OUT for non-interacing in TTX mode

6-2. CAT24C08P (EEPROM)

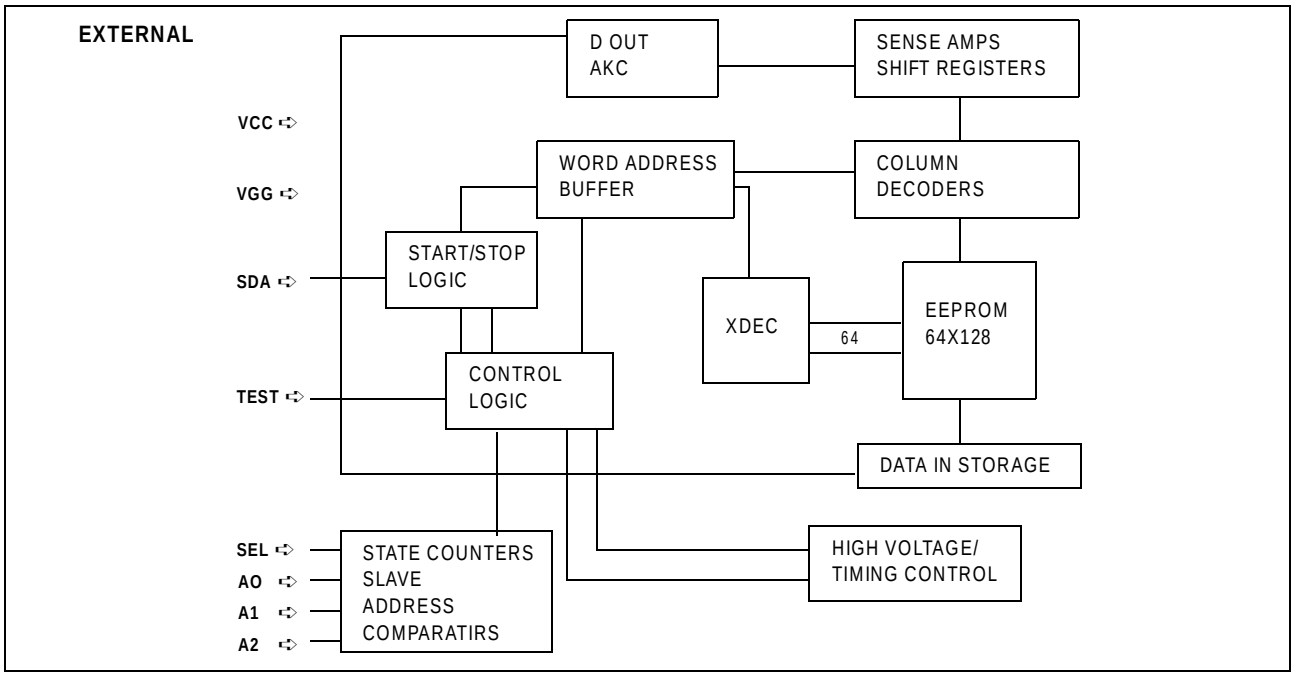
1. Typical feature

IIC BUS compatible
Low power CMOS technology
16Byte page write buffer
Self timed write cycle with auto clear
100,000 program/erase cycles
100 year data retention
Optional high endurance device available

2. Description

The CAT24C08P is a 8Kbit serial CMOS EEPROM internally organized as 1024x8bits.
The CAT24C08P features a 16byte page write buffer.

3. Block Diagram



4. Pin Description

PIN	SYMBOL	DESCRIPTION
1-3	A0,A1,A2	Device address input
4	VSS	Ground
5	SDA	Serial data/address
6	SCL	Serial clock
7	TEST	Connect to VSS
8	VCC	+5V POWER SUPPLY

6-3. TDA8374A(Single chip TV Processor for Negative modulation IF)

1. General Description

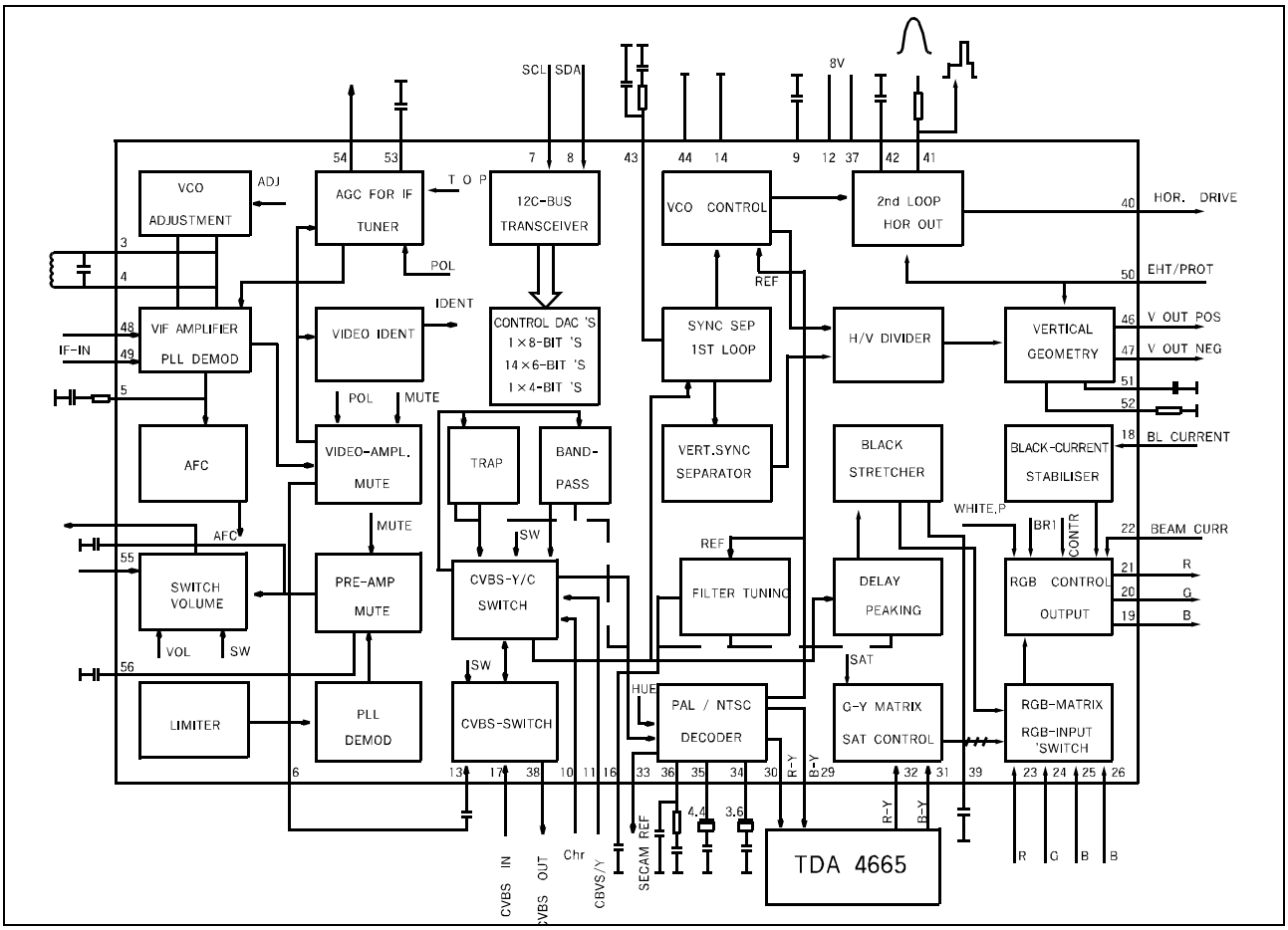
The TDA8374A is IIC BUS controlled single chip TV processors which are intended to be applied in PAL/NTSC television receiver.

TDA8374N3 : With positive and negative modulation
Applied in PAL/SECAM/NTSC TV.

2. Feature

- IF
- Vision IF amplifier with high sensitivity and good figures for differential phase and again.
- PLL demodulator with high linearity offering the possibility for (single standard) intercarrier stereo audio application.
- Alignment PLL via IIC
- VIDEO
- Integrated luminance delay line
- Integrated chroma trap and bandpass filters (auto calibrated)
- Asymmetrical peaking circuit in the luminance channel.
- Black stretching of non standard CVBS or luminance signals.
- COLOUR
- SECAM interface for application with SECAM add-on TDA8395.
- RGB
- RGB control (brightness,contrast,saturation.
- Black current stabilization and white point adjustment.
- INPUT/OUTPUT
- Flexible video source select with CVBS input for the internal signal and two external video inputs (one switchable for CVBS or Y/C)
- The output signal of the video source select is externally available(also as CVBS when Y/C input is used.)
- External audio input
- Linear RGB input with fast blanking.
- SYNCHRONIZATION AND DEFLECTION
- Horizontal synchronization with two control loops and alignment free horizontal oscillator.
- Slow start and slow stop of the horizontal drive output to enable low stress start-up and switch-off from the line circuit at nominal line supply voltage.
- Vertical count down circuit for stable behavior with provisions for non standard signals.
- Vertical geometry control
- Vertical drive optimized for DC coupled vertical output stages.
- CONTROL
- Full IIC BUS control, as well for customer controls as for factory alignment.
- All automatic controls have an option for forced mode.
- POWER CONSUMPTION
- Low power consumption (900mW at 8.0Volts).
- PACKAGING
- SDIL-56 (Shrinked Dual In Line, 56pins)

3. Block Diagram



4. Pin Description

NO	NAME	DESCRIPTION
1	SOUND IF INPUT	SIF INPUT
2	EXT AUDIO INPUT	EXTERNAL AUDIO INPUT
3 4	VCO REF FILTER	The IF VCO tuned circuit is applied to these pin. Its resonance frequency must be two times the if-frequency and in between a range of 64-120Mhz. This range is suitable for the if standards as 33.4,38.9,45.75 and 58.75 MHz. The VCO freq. can be adjusted by IIC bus so a fixed coil can be used.
5	PLL LOOP FILTER	The PLL loopfilter is a first order filter with R=390 ohm and C=100nF in series to ground. The loopfilter bandwidth is 60KHz and is optimal for both fast catching and sufficient video suppression for optimal sound performance. Sound performance can theoretically be improved by adding a small capacitor(approx.0-4.7nF) between pin 5 and ground. This however must be evaluated further because the normal video signal response should not be effected.
6	IF VIDEO OUTPUT	Although the video output impedance is low it is recommended to avoid high frequency current in the output due to for instance sound trap filters. This can be achieved by means of an emitter follower at the video output with a 1kΩ resistor in series with the base.
7	BUS INPUT : SCL	serial clock line
8	BUS INPUT : SDA	serial data line
9	BANDGAP DECOUPLING	The bandgap circuit provides a very stable and temperature ijdependent reference voltage. This reference voltage(6.7V)ensures optimal performance of the TDA8374 and is used in almost all functional circuit blocks.
10	CHROMA INPUT	The supplied C S-VHS input burst amplitude should be nominally 300㎷pp. (assumed is a colour bar signa! with 75% saturation and with chroma/burst ratio of 2.2/1). The C S-VHS input is internally clamped to 4V via 50 kΩ. The external AC coupling capacitor with 50* forms a high pass filter. A recommended coupling capacitor is 1 nF ; the high pass filter cut off frequency is then approximately 3kHz.
11	Y/CVBS INPUT	The Y S-VHS signal of 1Vpp (inclusive sync amplitude) is AC coupled to pin11.
12 37	MAIN POSITIVE SUPPLY	The TDA8374A has a main supply pin 12 and a hprizontal supply pin 37. Both pins have to be supplied simultaneously. Notice that the IC has not been designed to use this pin 37as start pin. (pin 37 supplies the horizontal oscillator, PHI-1 and PHI-2) (pin 12 supplies the rest of the circuits in th IC) The nominal supply voltage is 8V. With min/max values of 7.2-8.8V. Also in stand-by condition th IC must be supplied with 8V.

NO	NAME	DESCRIPTION
		A Voltage detection circuit is connected to both pins. - pin12 if V12 < 6.8V than a power on reset, POR. is generated. The Hout output is disabled immediate. - pin37 if V37 < 5.8V than the horizontal output is disabled immediate.
13 17	INT CVBS INPUT EXT CVBS INPUT	It is recommended that the CVBS1 int and CVBS2 ext input amplitudes are 1Vpp (inclusive sync amplitude). This, because the noise detector switches the Φ 1 loop to slow mode (i.e. auto Φ 1 mode when FOA,FOB=0,0) when noise level exceeds 100mVrms (i.e. at S/N of 20dB)
14	GROUND	All internal circuits are connected to this ground pin 14.
15	AUDIO OUTPUT	The output signal is volume controlled and is active for both internal and external audio signals. The nominal gain is +12dB and -68dB,which gives a total control range of 80dB.
16	DECOUPLING FILTER TUNING	Voltage variations at pin 16, which can be due to external leakage current or crosstalk from interference sources, should be less than 50mV to ensure that tuning of filters/delay cells remains correct.
18	BLACK CURRENT INPUT	For correct operation of the loop CURRENT information is supplied to the black current input pin.
19 20 21	BLUE OUTPUT GREEN OUTPUT RED OUTPUT	The RGB output are supplied to the video output stages from pins 21, 20, and19 respectively. For nominal signals (i.e. CVBS/S-VHS,-(R-Y),-(B-Y),TTX inputs) and for nominal control settings, then the RGB output signal amplitudes is typically 2V BLACK-WHITE.
22	V-GUARD INPUT /BEAM CURRENT LIMITER	The beam current limiting function is realized by reducing the contrast (and finally the brightness) when the beam current reaches too high level. The circuit falls apart in two functions: - Average beam current limiting(ABL):reacting on the average content of the picture - Peak white limiting (WPL):reacting on high local peaks in the RGB signal.
23 24 25	RED INPUT GREEN INPUT BLUE INPUT	The RIN,GIN,BIN signals(nominal signal amplitude of 700mV) AC coupled to pin 23,24 and25 respectively. Clamping action occurs during burstkey period.
26	RGB INSERTION SWITCH INPUT	The table below a survey is given of the three modes which can be selected with a voltage on RGB insertion switch input pin ; Vpin26 IIC function Selected RGB signal 0.9V-3V IE1=0 RGB(INTERNAL) IE1=1 Rin,Gin,Bin (fast insertion on pin 23,24,25) >4V IE1=X OSD can be inserted at the RGB out pins.
27	LUMINANCE INPUT	An nominal input signal amplitude of 1V black-white MUST be DC coupled.
		50PF;clamping action occurs during burstkey period.
28	LUMINANCE OUTPUT	The luminance output signal is approximately 1V black-white with typical output impedance of 250 ohm.

NO	NAME	DESCRIPTION
29 30	R-Y OUTPUT B-Y OUTPUT	The maximum output impedance of pins 29,and 30 is 500 Ω when PAL/NTSC signals are identified. When SECAM is identified by the SECAM add-on and no PAL/NTSC is already identified by the ASM, then the ASM sets the -(R-Y)/-(B-Y) output switch open (via DEMSW). This enables the -(R-Y)/-(B-Y) outputs of the TDA8395 to be directly connected to pins 29 and 30 respectively.
31 32	B-Y INPUT R-Y INPUT	The -(B-Y), -(R-Y) output signals (supplied from baseband delay line) are AC coupled, via a coupling capacitor of 10nF or greater, to the -(B-Y)/ - (R-Y) inputs; both inputs are clamped during burstkey period.
33	SECAM REF OUTPUT	The SECAM reference output is directly connected to pin 1 of the TDA8395 for SECAM decoding;it also can be used as a reference for comb. filter application.
34 35	X-TAL 3.58 X-TAL 4.43	To ensure correct operation of both: - colour processing internal circuits, - sync calibration internal circuits, it is only allowed to have 3.6MHz X-tals on pin34: both 4.4MHz, 3.6MHz X-tals are allowed on pin 35. If pin35 is not used:then it is left open in application(also XA, XB=0,1).
36	LOOP FILTER BURST PHASE DETECTOR	One of the important aspects of the PLL is the loop filter connected to pin 36; it influences the dynamic performance of the loop.
38	CVBS OUTPUT	The output amplitude is 1Vpp (transfer gain ratio between CVBS 1int or CVBS2ext or CVBS3ext/Y S-VHS and CVBSout is 1). The maximum output impedance is 250ßŸ.
39	BLACK PEAK HOLD CAPACITOR	For the correct working of the black stretcher an external time constant should be added at the black peak hold capacitor input.
40	HOR OUTPUT	This open collector output is meant to drive the horizontal output stage. The output is active low,i.e. the line transistor should conduct during the low period of the output.
41	SANDCASTLE OUTPUT /FLYBACK INPUT	Pin 41 is a combined input/output pin. The pin provides a three level sandcastle pulse. Both burstkey pulse and vertical blanking pulse are always available, the line blanking pulse is only present when the external flyback pulse is fed to this pin. The line flyback pulse, fed to this pin is used for two functions - input signal for the PHI-2 loop - RGB line blanking. (without flyback pulse blanking occurs only during the burstkey pulse) To ensure correct working of the delay line and SECAM add-on, the output should not be loaded with more than : - Sandcastle input delay line TDA 4665 - Sandcastle input SECAM add-on TDA 8395
42	PHI-2 FILTER/	The loop filter is a first order filter.
	FLASH PRODECT	This pin requiresa capacitor(C) only. A flash protection becomes active when this pin is forced>6V. The horizontal drive is switched-off immediately. Once the voltage is <6V the horizontal drive is switched-on again via the slow start prodecure.

NO	NAME	DESCRIPTION
43	PHI-1 FILTER	The loop filter connected to pin 43 is suitable for various signal conditions as strong/weak and VCR signal. This is achieved by switching of the loopfilter time constant by changing the PHI-1 output current. Via IIC bus FOA/B,different time constants can be chosen,including an automatic mode which gives optimal performance under varing conditions.
44	GROUND	To this pin are connected the IC-substrate and horizontal output.
45	EAST-WEST DRIVE	not used.
46 47	VERT. DRIVE+ VERT DRIVE-	The vertical drive has a current output.The output is balanced which ensures a good common mode behavior with temperature and makes the output signal less sensitive for disturbances.
48 49	IF INPUT	The PLL freq. range is 32-60MHz with corresponding VCO freq. 64-120MHz. The IF input impedance is 2kΩ in parallel with 3pF and matches the required load for commonly used saw filters. A DC coupling is allowed, so no series capacitors between saw filter and IF input are necessary.
50	EHT/OVERVOLTAGE PROTECT IN PUT	not used
51	VERTTICAL SAW-TOOTH CAPACITOR	This pin requires a capacitor to ground of 100nF +/-5%. The optimal sawtooth amplitude is 3.5V and is determined by the external capacitor and charge current. The sawtooth bottom-level is 2V.
52	REFERENCE CUR-RENT INPUT	This pin requires a resistor to ground. The optimal reference current is 100μA.which is determined by this resistor.
53	AGC DECOUPLING CAPACITOR	The AGC capacitor value is 2.2μF and has been defined for an optimal compromise between AGC speed and tilt for all AGC modes(+/-modulation)
54	TUNER AGC OUTPUT	This output is used to control(reduce) the tuner gain for strong RF signals. The tuner AGC is an open collector output which is acting as a variable current source to ground.
55	AUDIO DEEMPHASIS	Only a capacitor has to be connected to this pin that defines the deemphasis time constant. The signal is internally connected through to the Audio switch. The capacitor can be calculated as follows.
56	SOUND DECOUPLING	This pin requires a capacitor of 10μF connected to ground. The pin acts as a low pass filter needed for the DC feedback loop.

6-4. TDA4665 (BASEBAND DELAY LINE)

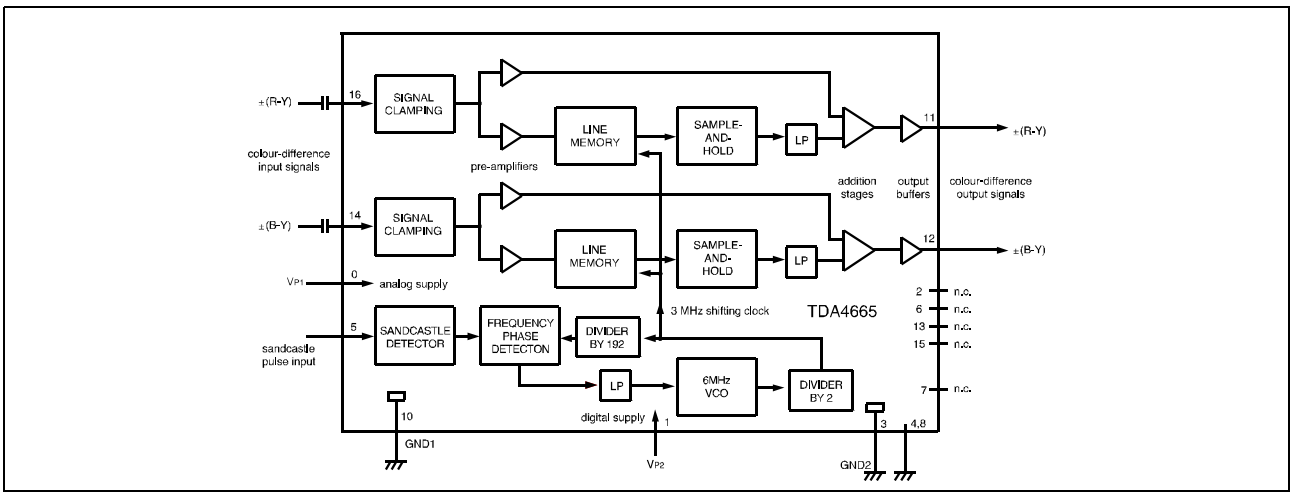
1. Feature

Two comb.filters,using the switched-capacitor technique, for one line delay time.
Adjustment free application.
No crosstalk between SECAM colour carriers.
Handles negative or positive colour-difference input signals.
Claamping of AC-coupled input signals ((R-Y) and (B-Y)).
VCO without external components.
3MHz internal clock signal derived from a 6MHz VCO, line-locked by the sandcastle pulse (64uS line)
Sample-and-hold circuits and low pass filters to suppress the 3MHz clock signal.
Addition of delayed and non-delayed output signals.
Output buffer amplifiers.
Comb. filtering functions for NTSC colour-difference signals to suppress cross-colour.

2. General Description

The TDA4661 is an integrated baseband delay line circuit with one line delay. It is suitable for decoders with colour-difference signal outputs (R-Y) and (B-Y).

3. Block Diagram



4. Pin Description

SYMBOL	PIN	DESCRIPTION	SYMBOL	PIN	DESCRIPTION
Vp 1	1	+5V supply voltage for digital part	Vp©¸	9	+5V supply voltage for analog part
nc	2	not connected	GND1	10	ground for digital part(0V)
GND2	3	ground for digital part(0V)	Vo(R-Y)	11	(R-Y) output signal
i.c.	4	internally connected	Vo(B-Y)	12	(B-Y) output signal
SAND	5	sandcastle pulse input	nc	13	not connected
nc	6	not connected	Vi(B-Y)	14	(B-Y) input signal
i.c	7	internally connected	nc	15	not connected
i.c	8	internally connected	Vi(R-Y)	16	(R-Y) input signal

6-5. TDA8395 (SECAM DECODER)

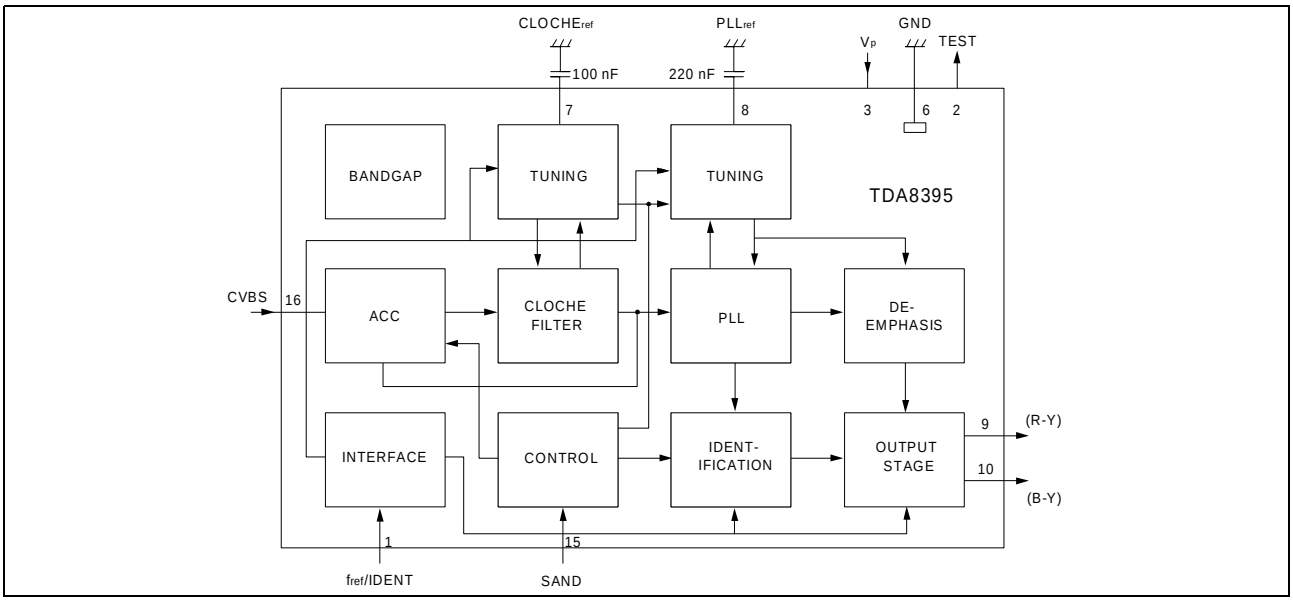
1. Feature

Fully integrated filters.
Alignment free.
For use with baseband delay.

2. Description

The TDA8395 is a self-calibrating, fully integrated SECAM decoder.The IC should preferably be used in conjunction with the PAL/NTSC decoder TDA8362 and with the switch capacitor baseband delay circuit TDA4665. The IC incorporates HF and LF filters, a demodulator and an identification circuit (luminance is not processed in this IC)
A highly stable reference frequency is required for calibration and a two-level sandcastle pulse for blanking and burst gating.

3. Block Diagram



4. Pin Description

SYMBOL	PIN	DESCRIPTION	SYMBOL	PIN	DESCRIPTION
Fref/ident	1	reference freq. input/ident input.	-(R-Y)	9	-(R-Y) output
TEST	2	test output	-(B-Y)	10	-(B-Y) output
Vp	3	positive supply voltage	nc	11	not connected
nc	4	not connected	nc	12	not connected
nc	5	not connected	nc	13	not connected
GND	6	ground	nc	14	not connected
CLOCH	7	Cloch reference filter	SAND	15	sandcastle pulse input
PLLref	8	PLLreference	CVBS	16	video(chrominance)input

6-6. TDA6106Q (VIDEO OUTPUT AMPLIFIER)

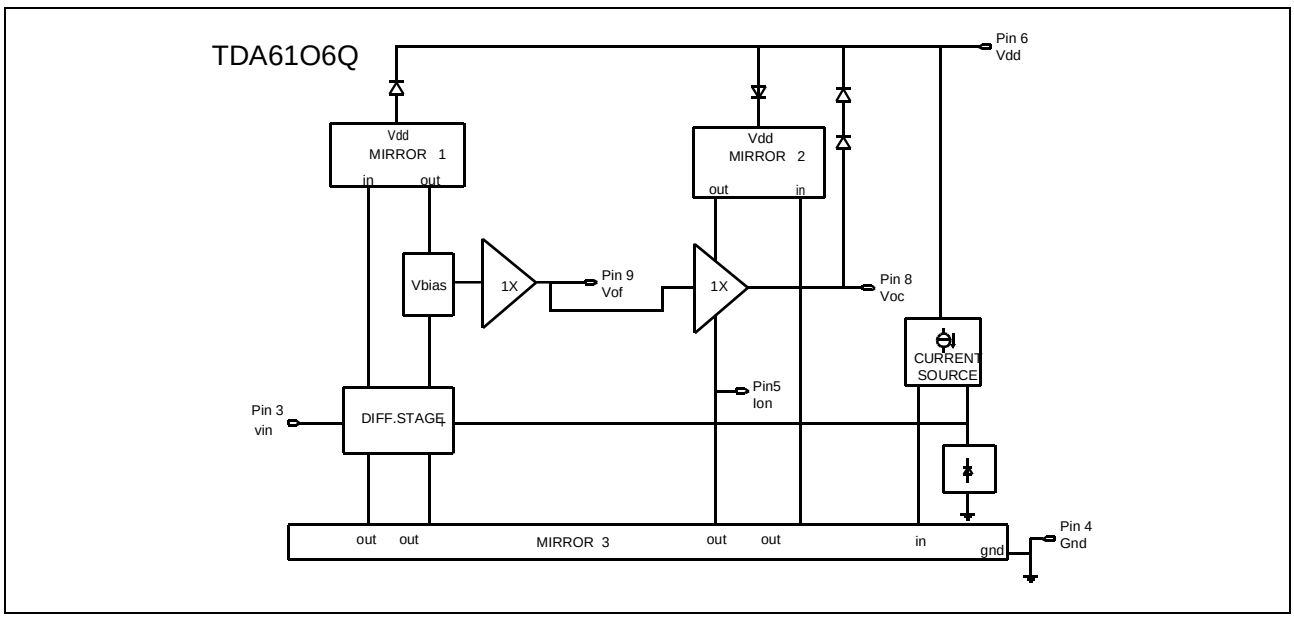
1. Feature

Black-current measurement output for automatic black current stabilization (ABS)
Single supply voltage of 200V
Internal protection against positive appearing CRT flash-over discharge
Protection against ESD
Internal 2.5V reference circuit
Controllable switch-off behavior

2. Description

The TDA6106Q is a monolithic video output amplifier (5MHz bandwidth) in a SIL 9MP package, using high-voltage DMOS technology, and is intended to drive the cathode of CRT directly.
To obtain maximum performance, the amplifier should be used with black-current control.

3. Block Diagram



4. Pin Description

SYMBOL	PIN	DESCRIPTION
nc	1	nc
nc	2	nc
Vin	3	inverting input
GND	4	ground,substrate
I om	5	black-current measurement output
Vdd	6	supply voltage high
nc	7	nc
Voc	8	cathode output
Vof	9	feedback/transient output

6-7. TDA8356 (DC-coupled vertical deflection circuit)

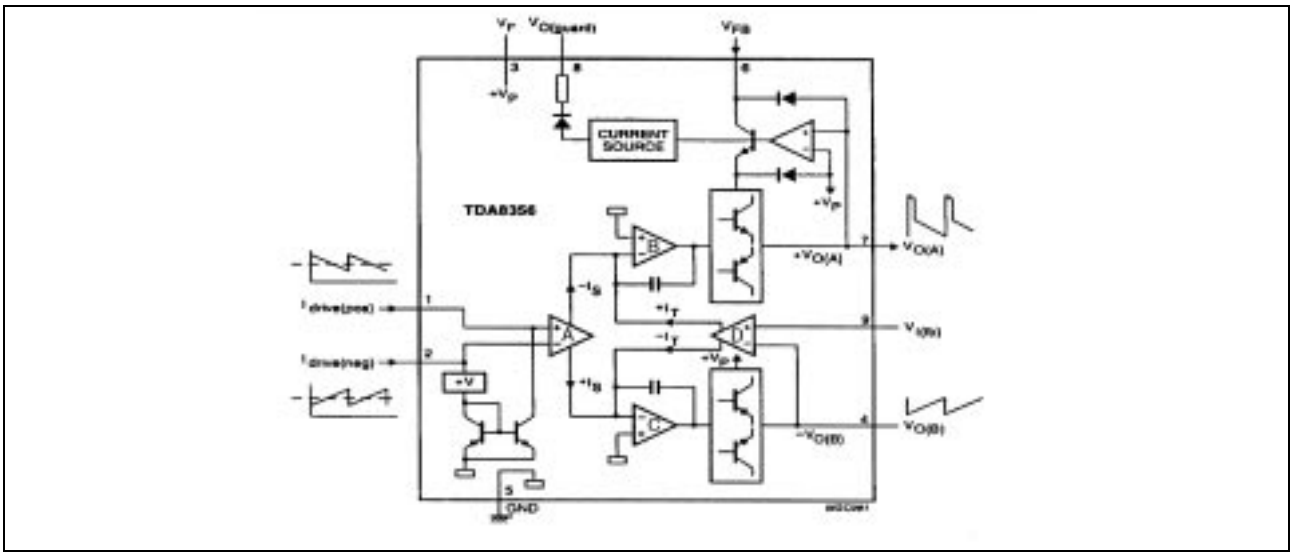
1. Feature

High efficient fully DC-coupled vertical output bridge circuit.
Vertical fly-back switch
Guard circuit
Protection against : 0short circuit of the output pins (7 and 4)
Temperature (thermal) protection
High EMC immunity because of common mode inputs

2. Description

The TDA8356 is power circuit for use in 90 and 110 colour deflection systems for field frequencies of 50 to 120Hz. The circuit provides a DC driven vertical deflection output circuit, operating as a high efficient class G system.

3. Block Diagram



4. Pin Description

SYMBOL	PIN	DESCRIPTION
Idrive(pos)	1	input power stage (positive) : include Ii(sb) signal bias
Idrive(neg)	2	input power stage (negative) : include Ii(sb) signal bias
Vp	3	operating supply voltage
Vo(b)	4	output voltage B
GND	5	ground
Vfb	6	input flyback supply voltage
Vo(a)	7	output voltage A
Vo(guard)	8	guard output voltage
Vi(fb)	9	input feedback voltage

6-8. TDA7056 (3W MONO BTL AUDIO PUTPUT AMPLIFIER)

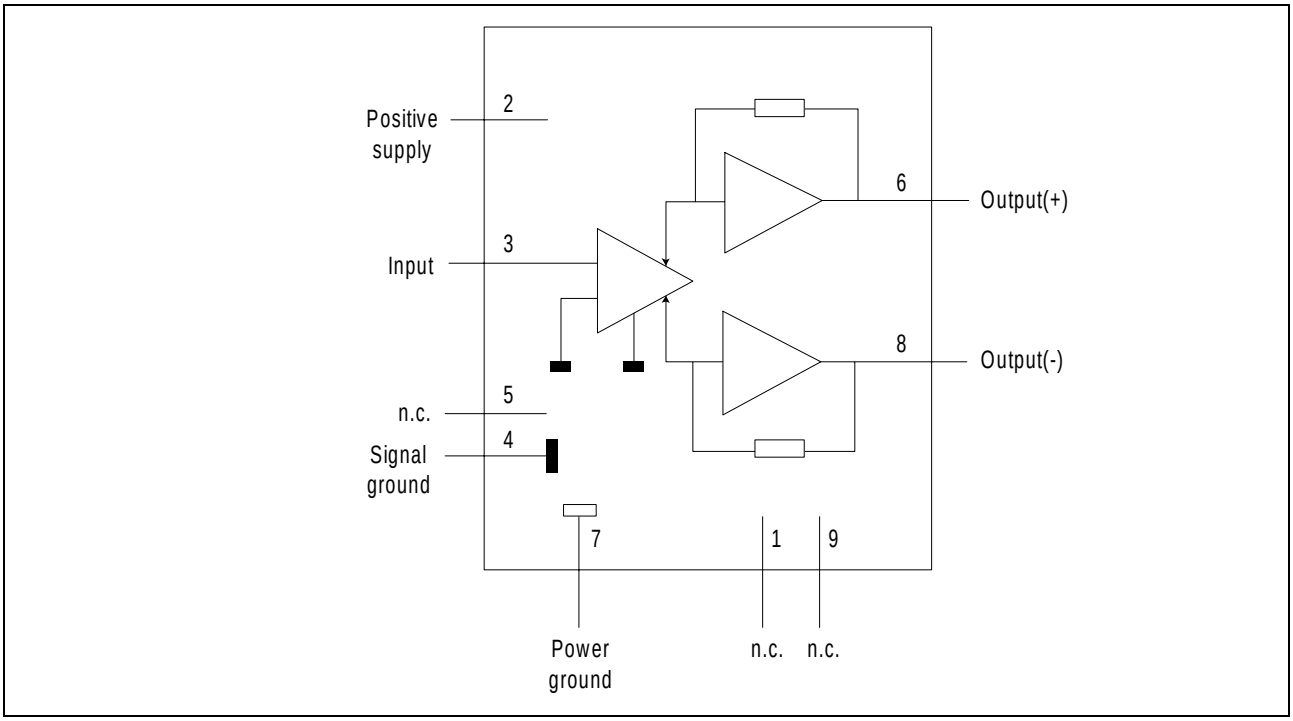
1. Feature

No switch-on/off clicks
Good overall stability
Short circuit proof

2. Description

The TDA7056 is a mono output amplifier contained in a 9 pin medium power package.
The device is designed for battery fed portable mono recorders,radios and television.

3. Block Diagram



4. Pin Description

SYMBOL	PIN	DESCRIPTION
nc	1	nc
Vp	2	positive supply voltage
input(+)	3	input signal
signal GND	4	signal ground
nc	5	nc
output(+)	6	output(+)
power GND	7	power ground
output(-)	8	output(-)
nc	9	nc

6-9. STR-S5707 (Hybrid IC for a Switching Regulator)

1. Feature

Small SIP isolated package : Resin sealed type (transfer mold)

Lo power discipation at a lighter load

Many protection function function : - Pulse-by-pulse over current protection

- Over-voltage protection with a latch
- Thermal protection with a latch

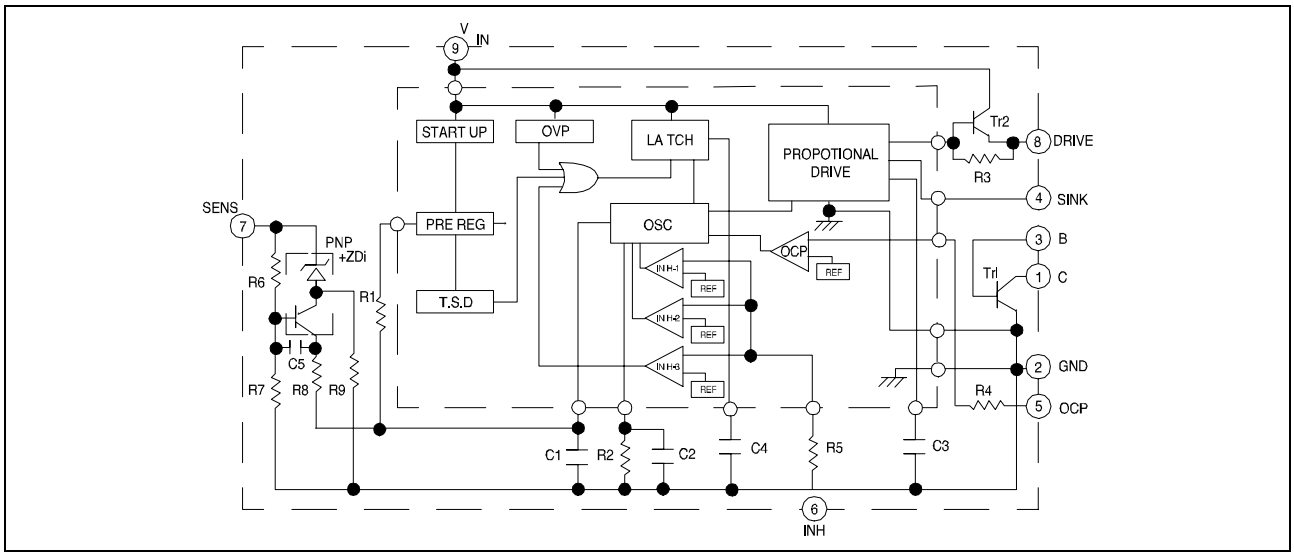
These protection functions are incorporated and can be latched with an external signal.

2. Description

The STR-S5707 is a Hybrid IC with a built in power transistor and a separate excitation control IC, designed for converter type switching mode power supply applications.

The IC is a capable of quasi-resonant mode and requires small number of external component.

3. Block Diagram



4. Pin Description

SYMBOL	PIN	DESCRIPTION
C	1	collector of power TR
GND	2	ground(Emitter of power TR)
B	3	Base of power TR
SINK	4	Base current (IS) input
OCP	5	over current sensing signal input
INH	6	input for synchronizing OFF time and latch circuit operation
SENS	7	constant voltage control signal input
DRIVE	8	output(-)Base drive current (ID) output
VIN	9	supply voltage for control circuit

Electrical Characteristics of Control Part (Ta=25°C)

Description	Terminal	Symbol	Rating			Unit
			MIN	TYP	MAX	
On-state voltage	9-2	Vin(on)	7.6	8	8.4	V
Off-state voltage	9-2	Vin(off)	4.6	4.9	5.2	V
Operating circuit current	9-2	Iin(on)	15	-	28	mA
Stand-by circuit current	9-2	Iin(off)	-	-	200	μA
On-time	-	Ton	33	-	41	μs
Off-time	-	Toff	45	-	55	μs
OCP terminal Threshold voltage	6-2	Vocp	-1.12	-1	-0.88	V
INH terminal Threshold voltage 1	8-2	Vinh1	0.65	0.75	0.85	V
INH terminal Threshold voltage 2	8-2	Vinh2	-	1.4	2.0	V
INH terminal Threshold voltage 3	8-2	Vlatch	3.2	5.1	5.8	V
OVP operating voltage	9-2	Vin(ovp)	9.2	-	10.7	V
Latch circuit sustaining current	9-2	Ih	-	-	500	μA
Latch circuit cancellation voltage	9-2	Vin(latch off)	2.5	3.1	-	V
MIC thermal shutdown starting temp.	-	Tj(tsd)	125	150	-	℃
Fixed reference voltage	7-2	Vs	32.0 ± 0.3			V
Temperature coefficient of reference voltage	7-2	-	-	+2.5	-	mV/℃

Electrical Characteristics of power transient part (Trl) (Ta=25°C)

Description	Terminal	Symbol	Rating			Unit
			MIN	TYP	MAX	
Collector Saturation Voltage	1-2	Vce(sat)	-	-	0.4	V
Collector Cutoff Current	1-2	ICEX	-	-	100	μA
Base-Emitter Saturation Voltage	3-2	VBE(sat)	-	-	1.5	V
DC Current Gain	-	hFE	29	-	61	-
Thermal Resistance	-	j-F	-	-	1.3	℃
Switching Time	1-2	ts	-	-	15	μs
	1-2	tf	-	-	0.5	

6-10. TOP-210 (Three-terminal off-line PWM Switch)

1. Feature

The TOP210 is intended for 100/110/230 VAC off-line power supply applications in the 0 to 8W (0 to 5W universal) range.

Controlled MOSFET turn-on.

Integrated PWM Ccontroller and 700V MOSFET in industry standard eight pin DIP package.

Only one external capacitor needed for compensation, bypass and start-up/auto-restart functions.

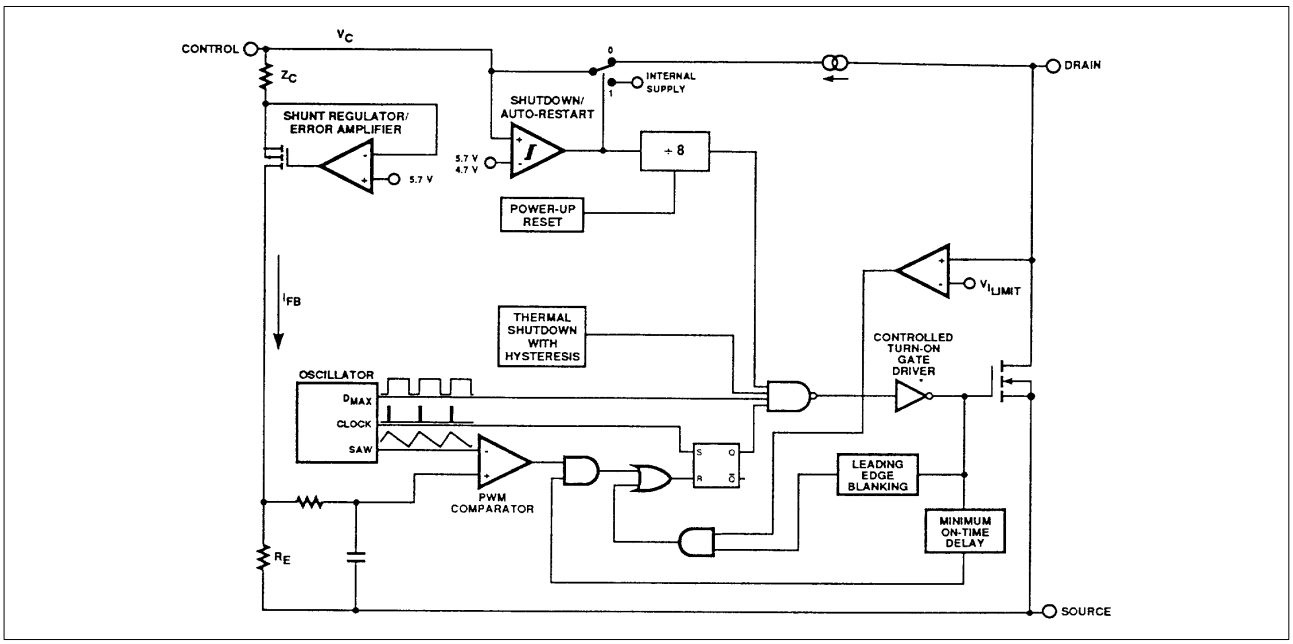
Auto-restart and cycle by cycle current limiting functions handle both primary and secondary.faults.

On-chip thermal shutdown with hysteresis protects the entire system against overload.

2. Description

The TOP210 is stand-by power supply for GREEN or ENERGY EFFICIENT PRODUCTS.

3. Block Diagram



4. Pin Description

SYMBOL	PIN	DESCRIPTION
SOURCE	1	Internally connected to output MOSFET source
NC	2	nc
NC	3	nc
CONTROL	4	Error amplifier and feedback current input pin
DRAIN	5	Output MOSFET drain connection
NC	6	nc
NC	7	nc
SOURCE	8	Output MOSFET source connection for high voltage return

6-11. LA71511MQ (QIP-80E) : A/V 1-CHIP

Application : PAL VHS VTR audio and video signal Processor

1. Feature

Applicable to multi system : PAL-GBI, MESECAM,4.43NTSC,NAP-GBI
Built-in NAP circuit to convert NTSC to PAL
Normal audio signal processing circuit (self-alignment for record bias)
Built-in SECAM discrimination circuit (MESECAM)
Built-in record and playback FM-EQ function (IIC bus control)
Y/C seperation using built-in comb filter
Built-in switching circuit for 3 video/audio inputs
Serial control by IIC bus
Complete adjustment free
Crosstalk reduction by CCD IC for exclusive use (colour comb filter is unnecessary)
Operating supply voltage : 4.8V - 5.2V

2. PIN DESCRIPTION

PIN NO.	PIN NAME	STANDARD DC VOLT	PIN NO.	PIN NAME	STANDARD DC VOLT
1	A.REC.OUT	2.3V	41	Y CCD DRIVE	
2	A-GND	0V	42	Y CCD DRIVE	
3	A.AUTO BIAS IN	2.3V	43	NTSC H OUT 2FSC OUT	NTSC MODE : 3.2V EX.NTSC MODE : OV
4	A.EQ-SW2	2.3V	44	PB APC 2	REC: 0V PB : 1.7V
5	A.AUTO BIAS C	REC: CONTROL VOLT PB : 5V	45	PB C IN	1.75V
6	A.AUTO BIAS B	REC: 0.7V, PB : 0V	46	PB C OUT	REC : 3.9V, PB : 2.45V
7	A.EQ-IN	2.3V	47	C-VCC	5V
8	A.EQ-NFB	2.3V	48	C CCD DRIVE2	REC: 2.4V, PB : 2.4V
9	A.EQ-SW1	2.3V	49	SLD FIL	REC: 3.8V, PB : 3.8V
10	A.EQ-OUT	2.3V	50	C CCD DRIVE1	REC: 2.4V, PB : 2.4V
11	A.LINE PB IN		51	AFC/APC FIL.	REC: 3.8V, PB : 3.8V
12	AGC-TC1 carrier leak bal.	REC: 2.3V PB : 2.3V	52	C CCD IN	REC: 3.25V PB : 3.25V
13	ACC FILTER	REC: 1.9V, PB : 1.9V	53	PA STOP TRSW	0V
14	REC-C-OUT	REC: 2.7V, PB : 0V	54	REC APC FIL.	REC: 2.1V
15	PB YFM/CIN	REC: 0V, PB : 3.2V	55	VX01/X01 IN	VXO: 3.9V, X0 : 3.8V
16	EQ-FILTER	REC: 2.6V, PB : 2.7V	56	VX01/X01 OUT	VXO: 2.5V, X0 : 2.3V
17	PB EQ OUT	REC: 5V, PB : 2.4V	57	C GND	0V
18	REC YFM OUT	REC 2.2V	58	VXO2/X02 OUT1 or PB H OUT	VXO:2.5V X0:2.3V PB HOUT : 3.4V
19	REC H OUT	REC: 4V REC PAUSE: 2V	59	VXO2/X02 OUT2	VXO: 2.7V 3.58NT:0V XO: 2.4V 3.58NT:0V
20	PB YFM IN	REC,PB : 3V	60	VXO2/XO2 IN	VXO:3.9V 3.58NT:OV XO : 3.8V 3.58NT:0V
21	TRICK H OUT	TRICK MODE 4.2V	61	KILL-FILTER	COLOUR:1.9V KIL:3.1V
22	AGC-TC2	REC: 1.6V PB : 1.5V	62	ACK/SLD OUT	
23	PB E-PEAKING	REC: 0V PB : 1.4V	63	SERIAL CLK IN	
24	MAIN EMPH F.	REC: 2.1V PB : 1.8V	64	S. DATA IN	
25	REC-Y	REC: 2.2V	65	SECAM DET/ S-DET OUT	
	MAIN EMP OUT	PB : 2.2V			
26	CLAMP IN	REC:2.8V PB : 2.8V	66	C-ROT PUL-IN	
27	Y-GND	0V	67	H/SW PUL-IN	
28	VIDEO IN1	SYNC TIP:1.5V PB:0V	68	SECAM DET LPF	PIN65'H'=4V PIN65'L'=2V
29	FB CLAMP FIL.	REC: 2.75V PB : 2.7V	69	SECAMDET ADJ	2.5V
30	VIDEO IN2	SYNC TIP:1.5V PB:0V			
31	REG	REC: 4V PB : 4V	70	A.MUTE ON/OFF	0V
32	VIDEO IN3	SYNC TIP:1.5V PB:0V	71	A.LINE IN1	2.3V
33	QV,QH-INSERT CHAR.-INSERT	THROUGH : 0-0.8V CHARACTER : 1-2.2V QH IN : 2.5-3.2V QV IN : 3.8-VCC	72	A.ALC DET	0V
			73	A.LINE IN2	2.3V
34	VPS OUT	SYNC TIP:1.5V PB:0V	74	A.VREF FIL.	2.3V
35	VIDEO AGC IN	REC: 3.1V, PB : 4.2V	75	A.LINE IN3	2.3V
36	Y-VCC	5V	76	A-VCC	5V
37	SYNC-OUT		77	A.LINE OUT	2.3V
38	VIDEO OUT		78	A.ALC DET IN	2.3V
39	VCA FILTER	REC: 2.9V, PB : 2.9V	79	A. REC IN	2.3V
40	VCA IN(CLAMP)	REC: 2.8V, PB : 2.8V	80	A.H SW OUT	REC:5V, PB : 0V

6-12. LA70001 (HEAD AMP IC)

1. Feature

AGC circuit is built-in this IC (no record current adjustment is required)

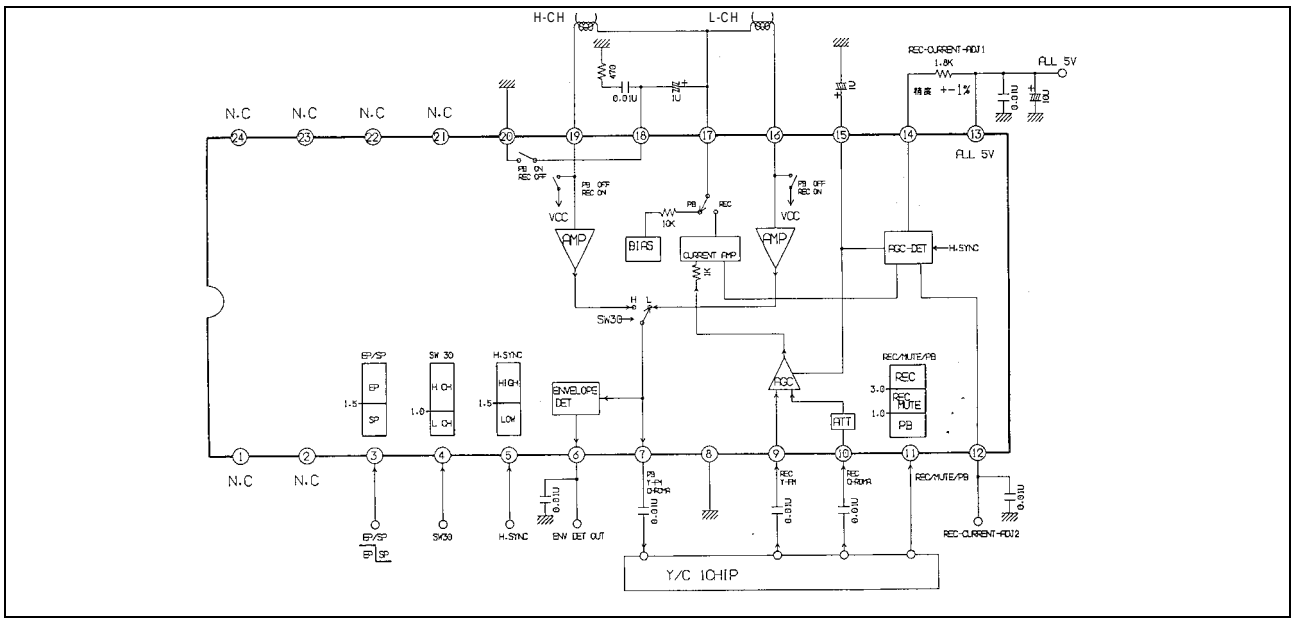
Playback envelope detector circuit is built-in this IC for the purpose of auto-tracking.

Operating supply voltage : 4.8V - 5.5V

2. Pin Description

PIN NO.	PIN NAME	STANDARD DC VOLTAGE	PIN NO.	PIN NAME	STANDARD DC VOLTAGE
1	NC		13	VCC	5V
2	NC		14	REC CURRENT ADJ.1	PB : 5.0V REC: 4.5V
3	HA (EP/SP)	1.5V THRESHOLD	15	REC.AGC FIL.	PB : 0V REC: 1.6V
4	SW30	1.0V THRESHOLD	16	L IN	PB : 2.1V REC: 4.1V
5	H-SYNC	1.5V THRESHOLD	17	REC SP OUT	PB : 2.1V REC: 4.1V
6	ENVELOPE DET OUT	PB : REC: 0V	18	PB FILTER	PB : 0V REC: 2.5V
7	PB OUT	PB : 1.7V REC: 2.1V	19	H IN	PB : 0V REC: 4.1V
8	GND		20	GND	0V
9	REC Y IN	PB : 4.0V REC: 3.7V	21	NC	
10	REC C IN	PB : 4.0V REC: 3.7V	22	NC	
11	REC/MUTE/PB		23	NC	
12	REC CURRENT ADJ.2	PB : 2.5V REC: 2.5V	24	NC	

3. Block Diagram



6-13. LC89977M (CCD DELAY LINE IC)

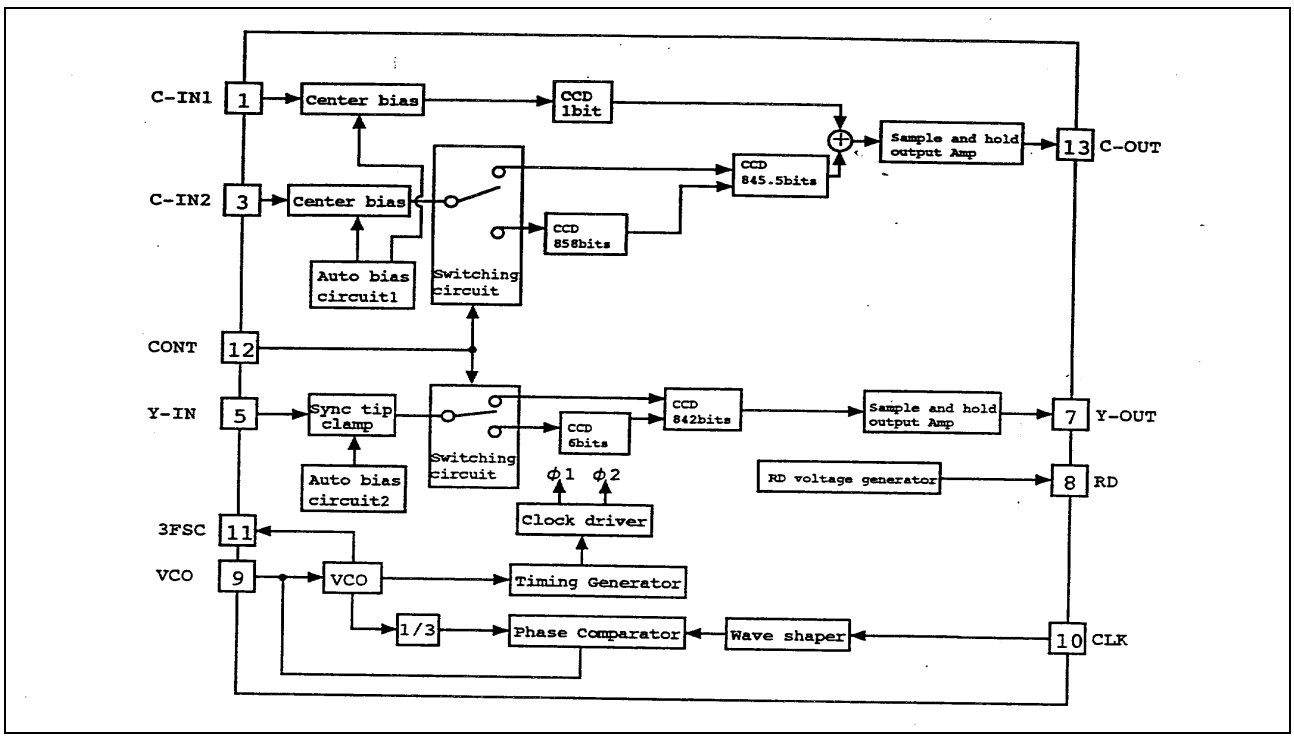
1. Feature

Built-in comb filter function for colour noise reduction
Built-in 1H delay line for luminance signal
3fsc (13.3MHz) clock is generated by PLL circuit and is synchronized with fsc(4.43MHz) clock input.
Comb filter for chrominance noise reduction
Available system : PAL,GBI,4.43NTSC
The output phase of luminance signal is the same phase of input signal
Package : MFP-14S

2. Functions

2CCD shift registers. (for chrominance signal, and for luminance signal)
Timing generator and clock driver for CCD.
Delay time selective circuit.
Signal adder unit on CCD shift register.
Auto-bias circuit.
Sync tip clamp circuit for luminance signal.
Center bias circuit for chrominance signal.
Sample and hold circuit and output Amp.
3fsc clock generator with PLL circuit.
3fsc clock output circuit.
High voltage generator for CCD Reset Drain(RD).

3. Block Diagram



SYSCON PORT (IN01)

<table>
<tr><th>NO.</th><th>NAME</th><th>PORT</th><th>I/O</th><th>ASSIGNMENT</th><th>ACTIVE</th><th>CN</th></tr>
<tr><td>1</td><td>KEY0</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>2</td><td>PATH ADJ.</td><td>P77/AN7</td><td>I</td><td>USE FOR PATH ADJUST.</td><td>A/D</td><td>PATH JIG</td></tr>
<tr><td>3</td><td>P.G DELAY</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>4</td><td>DRUM SEL.</td><td>P75/AN5</td><td>I</td><td><table><tr><th></th><th>SP</th><th>LP</th><th>A/D INPUT</th><th>RN08</th></tr><tr><td>PAL 2HD(SP)</td><td>57/75</td><td></td><td>1.85~2.5</td><td>6.2K</td></tr><tr><td>PAL 2HD(S/LP)</td><td>40/40</td><td>40/40</td><td>1.25~1.85</td><td>4.3K</td></tr><tr><td>SECAM 2HD(LP)</td><td>40/40</td><td>40/40</td><td>1.25~1.85</td><td>4.3K</td></tr><tr><td>PAL 4HD</td><td>45/50</td><td>30/30</td><td>2.5~3.1</td><td>12K</td></tr><tr><td>SECAM 4HD</td><td>49/49</td><td>20/20</td><td>1.25~1.85</td><td>22K</td></tr></table></td><td>A/D</td><td></td></tr>
<tr><td>5</td><td>POWER FAIL</td><td>P74/AN4</td><td>I</td><td>WHEN POWER IS DISCONNECTED THIS PORT DETECTS POWER FAILURE AND THEN GOES INTO POWER COMPENSATIO N MODE.</td><td>L</td><td></td></tr>
<tr><td>6</td><td>END SENSOR</td><td>P73/AN3</td><td>I</td><td>TAPE END SENSOR DATA INPUT.</td><td>L</td><td>END SENSOR</td></tr>
<tr><td>7</td><td>START SENSOR</td><td>P72/AN2</td><td>I</td><td>TAPE START SENSOR DATA INPUT.</td><td>A/D</td><td>START SENS.</td></tr>
<tr><td>8</td><td>A. ENV.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>9</td><td>V. ENVE.</td><td>P70/AN0</td><td>I</td><td>DC ENVE DATA INPUT</td><td>A/D</td><td>VIDEO</td></tr>
<tr><td>10</td><td>SLOW BREAK</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>11</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>12</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>13</td><td>QV SYNC</td><td>P64/RTP9</td><td>O</td><td>OUT THIS SIGNAL DURING TRICK MODE</td><td>PULSE/L</td><td>VIDEO</td></tr>
<tr><td>14</td><td>I.R INPUT</td><td>P63/RTP8</td><td>I</td><td>REMOCON DATA INPUT</td><td>P</td><td>I.R RECEIVER</td></tr>
<tr><td>15</td><td>C. ROTARY</td><td>P62/
EXORout</td><td>O</td><td>2HD : SW PULSE
4HD :EXCLUSIVE or OUTPUT OF HEAD AMP SW & SW PULSE.</td><td>P</td><td>VIDEO</td></tr>
<tr><td>16</td><td>H.AMP SW</td><td>P61/
EXORout</td><td>O</td><td>TO SELECT SP HEAD OR LP HEAD.
SP HEAD : L , LP HEAD : H
2HEAD : H
4HEAD :<table><tr><th></th><th>PALY</th><th>CUE/REV</th></tr><tr><td>SP</td><td>L</td><td>L/H</td></tr><tr><td>LP</td><td>H</td><td>L/H</td></tr></table></td><td>P</td><td>VIDEO</td></tr>
<tr><td>17</td><td>COMPARATOR</td><td>P60/EXORin</td><td>I</td><td>COMPARE SP ENVE WITH SP ENVE
SP : L, LP : H</td><td>P</td><td>VIDEO</td></tr>
<tr><td>18</td><td>V. HEAD SW</td><td>P57/RTP7</td><td>O</td><td>TO SELECT R/L CHANNEL (VIDEO HEAD)</td><td>P</td><td>VIDEO</td></tr>
<tr><td>19</td><td>A. HEAD SW</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>20</td><td>TRICK (H)</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>21</td><td>CAP F/R</td><td>P54/RTP4</td><td>O</td><td>CAPSTAN MOTOR FORWARD (L)
REVERSE (H)</td><td>L/H</td><td>DECK
(CAPSTAN)</td></tr>
<tr><td>22</td><td>REC (H)</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>23</td><td>CAP I LIM</td><td></td><td>O</td><td>THIS PORT IS USUALLY OPEN BUT OUT -PUTS THE CAPSTAN STOP STATE OF FRAME ADVANCE</td><td>L</td><td>DECK
(CAPSTAN)</td></tr>
<tr><td>24</td><td>LP (H)</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>25</td><td>SLP (H)</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>26</td><td>REC SAFETY</td><td></td><td>I</td><td>REC SAFETY TAB IS DETECTED L STATE SO THAT RECORDING IS INHIBITED.</td><td>L</td><td>REC SAFETY
SW</td></tr>
</table>

<table>
<tr><th>NO.</th><th>NAME</th><th>PORT</th><th>I/O</th><th>ASSIGNMENT</th><th>ACTIVE</th><th>CN</th></tr>
<tr><td>27</td><td>SYNC DET (L)</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>28</td><td>PB (L)</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>29</td><td>TAPE DOWN L</td><td>P44</td><td>I</td><td>TAPE INSERTED : L</td><td>L</td><td></td></tr>
<tr><td>30
31
32
33</td><td>CAM D
CAM C
CAM B
CAM A</td><td>P43
P42
P41
P40</td><td></td><td>CAM DATA INPUT
* MODE SWITCHING TABLE
<table>
<tr><th>CAM A</th><th>CAM B</th><th>CAM C</th><th>CAM D</th><th>MODE</th></tr>
<tr><td>L</td><td>H</td><td>H</td><td>H</td><td>EJECT</td></tr>
<tr><td>L</td><td>H</td><td>L</td><td>H</td><td>STAND BY</td></tr>
<tr><td>H</td><td>H</td><td>L</td><td>H</td><td>REV</td></tr>
<tr><td>H</td><td>H</td><td>L</td><td>L</td><td>STOP</td></tr>
<tr><td>H</td><td>H</td><td>H</td><td>L</td><td>PLAY</td></tr>
<tr><td>H</td><td>L</td><td>L</td><td>L</td><td>SLOW</td></tr>
<tr><td>H</td><td>L</td><td>H</td><td>H</td><td>BRAKE</td></tr>
<tr><td>H</td><td>L</td><td>H</td><td>L</td><td>FF/REW</td></tr>
<tr><td>H</td><td>H</td><td>H</td><td>H</td><td>CAM OFF</td></tr>
</table></td><td>L</td><td>DECK
(CAM)</td></tr>
<tr><td>34
35</td><td>NUB
NUA</td><td>GND</td><td></td><td></td><td></td><td></td></tr>
<tr><td>36</td><td>CLK SEL</td><td>CLOCK SEL</td><td>I</td><td>AFTER RESET, A SYSTEM CLOCK IS
SELECTED DEPENDING UP ON CUR
RENT STATE : IF L : 32.768KHz
H : 16MHz IS SELECTED.</td><td>L/H</td><td></td></tr>
<tr><td>37</td><td>VCC</td><td>VCC</td><td></td><td>5V</td><td></td><td></td></tr>
<tr><td>38</td><td>Xin</td><td>Xin</td><td></td><td>16MHz OSC IN</td><td></td><td></td></tr>
<tr><td>39</td><td>Xout</td><td>Xout</td><td></td><td>16MHz OSC OUT</td><td></td><td></td></tr>
<tr><td>40</td><td>VSS</td><td>GND</td><td></td><td></td><td></td><td></td></tr>
<tr><td>41</td><td>Xcin</td><td>P141/Xcin</td><td>I</td><td>32.768KHz OSC IN</td><td></td><td></td></tr>
<tr><td>42</td><td>Xcout</td><td>P140/Xcout</td><td>O</td><td>32.768KHz OSC OUT</td><td></td><td></td></tr>
<tr><td>43</td><td>RESET L</td><td>RESET L</td><td>I</td><td>RESET INPUT</td><td>L</td><td></td></tr>
<tr><td>44
45</td><td>L MOTOR ON
L MOTOR F/R</td><td>P32 P31</td><td>O</td><td>
<table>
<tr><th></th><th>LM F</th><th>LM R</th><th>OUTPUT</th></tr>
<tr><td>LOADING MOTOR</td><td>H</td><td>L</td><td>FORWARD</td></tr>
<tr><td>REV DRIVING</td><td>L</td><td>H</td><td>REVERSE</td></tr>
<tr><td>LOADING MOTOR</td><td>H</td><td>H</td><td>BRAKE</td></tr>
<tr><td>FOR DRIVING</td><td>L</td><td>L</td><td></td></tr>
</table></td><td>L/H</td><td>L/MOTOR IC</td></tr>
<tr><td>46</td><td></td><td>P30</td><td></td><td></td><td></td><td></td></tr>
<tr><td>47</td><td></td><td>P21</td><td></td><td></td><td></td><td></td></tr>
<tr><td>48</td><td></td><td>P20</td><td></td><td></td><td></td><td></td></tr>
<tr><td>49</td><td></td><td>P17</td><td></td><td></td><td></td><td></td></tr>
<tr><td>50</td><td>AV MUTE H</td><td>P16</td><td>O</td><td></td><td>H</td><td></td></tr>
<tr><td>51</td><td>GND</td><td>P15</td><td></td><td></td><td></td><td></td></tr>
<tr><td>52</td><td>REC LED</td><td>P14</td><td>O</td><td>LED DRIVING</td><td>H</td><td>LED</td></tr>
<tr><td>53</td><td>POWER LED</td><td>P13</td><td>O</td><td>LED DRIVING</td><td>H</td><td>LED</td></tr>
<tr><td>54</td><td>ST BY LED</td><td>P12</td><td>O</td><td>LED DRIVING</td><td>H</td><td>LED</td></tr>
<tr><td>55</td><td>POWER ON H</td><td>P11</td><td>O</td><td>VCR POWER ON : H</td><td>H</td><td>POWER PART</td></tr>
<tr><td>56</td><td>AUDIO MUTE</td><td>P10</td><td>O</td><td>AUDIO MUTE H OUTPUT</td><td>H</td><td></td></tr>
<tr><td>57</td><td>SECAM (H)</td><td>P07</td><td>I</td><td>SECAM MODE INPUT</td><td>H</td><td>SECAM IC</td></tr>
<tr><td>58</td><td>MESECAM (H)</td><td>P06</td><td>I</td><td>MESECAM DETECT INPUT</td><td>H</td><td>Y/C IC</td></tr>
<tr><td>59</td><td>VIDEO DATA</td><td>P05</td><td>O</td><td>VIDEO SECAM SERIAL DATA OUTPUT</td><td>SERIAL</td><td>Y/C,SECAM IC</td></tr>
<tr><td>60</td><td>VIDEO CLOCK</td><td>P04</td><td>O</td><td>VIDEO SECAM SERIAL CLOCK OUTPUT</td><td>SERIAL</td><td>Y/C,SECAM IC</td></tr>
</table>

NO.	NAME	PORT	I/O	ASSIGNMENT	ACTIVE	CN
61	SECAM CON H	P03		SECAM CONTROL : SECAM : "H"	H	SECAM IC
62	MESECAM H	P02				
63	HEAD SEL.	P01	O	HEAD SELECTION 2HD : L 4HD : H	H/L	
64	RESET H	P00	O	RESET PULSE OUT	H	TIMER
65		P107/Sout1				
66		P106/Sin1				
67		P105/Sclk1				
68	SYS D. OUT	P104/Sout0	O	SYSCON SERIAL DATA OUTPUT	PULSE	TIMEER
69	SYS DATA IN	P103/Sin0	I	SYSCON SERIAL DATA INPUT	PULSE	TIMEER
70		P102/Sclk0B				
71	SYS CLK IN	P101/Sclk0a	I	SYSCON SERIAL CLOCK INPUT	PULSE	TIMEER
72		P100/T1				
73		P97/T5				
74	PAL H	P96/T4	O	PLAYBACK PAL MODE : H	H	PREAMP
75		P95/INT0				
76		P94/PWM2				
77	CAP PWM	P93/PWM1	O	DRUM MOTOR CONTROL PWM OUTPUT.	PULSE	DECK(DRUM)
78	DRUM PWM	P92/PWM0	O	CAP. MOTOR CONTROL PWM OUTPUT.	PULSE	DECK(CAP)
79		P91/RLS				
80	HIGH SPEED CONTROL	P90/RLT	O	CTL NOISE ERASE FF/REW : L PLAY,CUE,REV,SLOW : H	H/L	SYSCON
81	S REEL	P86/INT2	I	SUPPLY REEL PULSE INPUT	PULSE	DECK(REEL)
82	T REEL	P85/INT1	I	TAKE-UP REEL PULSE INPUT	PULSE	DECK(REEL)
83		P84/PG				
84	C.SYNC	P83/CON	I	COMPOSITE SYNC DATA INPUT	PULSE	
85	CAP PG	CPFGin	I	CAPSTAN PG INPUT	PULSE	DECK(CAP)
86	DRUM PG	DRPG/in	I	DRUM PG INPUT	PULSE	DECK(DRUM)
87	DRUM FG	DRFGin	I	DRUM FG INPUT	PULSE	DECK(DRUM)
88	AMP GND	AMP Vss				
89	AMP REF OUT	AMPVref out	O	CTL AMP REFERENCE VOLTAGE OUT.	H	
90	AMP REF IN	AMPVrefin	I	CTL AMP REFERENCE VOLTAGE IN.	H	
91	CTL(-)	CTL(-)	I	CTL PULSE (-) INPUT	PULSE	DECK
92	CTL(+)	CTL(+)	I	CTL PULSE (+) INPUT	PULSE	DECK
93	CTL SW	CTL SWout	O	CTL SW PULSE OUT	PULSE	
94	CTL AMP	CTLAMPin	I	CTL SW PULSE IN	PULSE	
95	CTL AMP CON.	AMPC	O	CTL AMP GAIN CONTROL		
96	CTL GND	CTLVSS				
97	CTL AMP OUT	CTL AMPout	O	CTL AMP PULSE OUTPUT	PULSE	TEST JIG
98	AMPVCC	AMPVCC	I	5V		
99	VCC	AVCC	I	5V		
100		PB1/AN9				

7. CIRCUIT DESCRIPTION

7-1. VISION IF amplifier,afc,video demodulator

The IF signal from the tuner is fed through a SAW filter to the differential IF input (pin 48 and 49).
The first IF stage consists of 3AC-coupled amplifiers with a total gain control range of over 66dB.
The reference carrier for the video demodulator is obtained by a PLL carrier regenerator(eliminating notch filter compromises,as in reference tuned circuits for passive carrier regeneration).
Only an oscillator coil is needed(pin3,4) that can be aligned via IIC bus to the double IF frequency.
The AFC information is derived from the VCO control voltage of the IF-PLL and can be read via IIC bus. Bit AFB toggles when the picture carrier is exactly at the desired IF frequency (=half the aligned IF-PLL frequency). AFA is active in a window around this point.
For fast search-tuning applications this window can be increased by a factor3 (AFW bit).

7-2. TUNER AGC

The automatic gain control(AGC) circuit operates on top sync level at negative modulated signals or on peak white level at positive modulation, selected by MOD bit.
The tuner AGC is controlled via pin 54.
The tener AGC take over point (TOP) can be set over a wide range :0.8mVrms - 80mVrms IF input signal amplitude.
The tuner AGC output may have to operate above Vcc of TDA8374.
Therefore pin54 is an open collector output, that can operate from 0.3up to Vcc+1V(at>2mA sink current)

Source select switch
TDA8374 input switch can select one of the following sources;
pin 13 front-end : CVBS1int
pin 17 : CVBS2ext
pin 11,10 : S-VHS Y,C
Selected signal is available at the CVBS output pin38, in case of Y/C input Y+C are added.
It drive teletext and the TDA8395 SECAM add-on.
For S-VHS applications, the Y,C input can be selected, independent of the CVBS source switch.
TDA8374 Y,C inputs are selected,while the source switch outputs CVBS Iint or CVBS 2ext on CVBSout.

7-3. Horizontal synchronization and protection

The sync. seperator adapts its slicing level in the middle between top-sync and black level of the CVBS signal. The seperated sync. pulses are fed to the first phase detector and to the coincidence detector.
The Φ -1 loop gain is determined by the components at pin 43 (C+RC).
The coincidence detector detects whether the horizontal line oscillator is synchronized to the incomming video.
The line oscillator is a VCO-type, running at twice the line frequency.
It is calibrated with the X-tal oscillator frequency of the colour decoder and has a maximum deviation of 2% of the nominal frequency, so no alignment is needed.
Calibration is done at start up(the TDA8374 must first know what colour X-tals are connected,bit XA,XB) after synchronization loss (Φ -1 coincidence detector "Sync Locked" bit SL).

The second phase detector Φ -2 locks the phase of the horizontal drive pulses at output pin 40 to the horizontal flyback pulse at input pin 41.
This compensates for the storage time of the horizontal deflection transistor.
The Φ -2 loop filter (C) is externally connected to pin 42.
The horizontal phase can be given a static off set via IIC bus (HSH "horizontal shift).
A dynamic correction is possible by current feedback into the Φ -2 loop filter capacitor.
To protect the horizontal deflection transistor, the horizontal drive is switched off immediately when a power failure ("Power-On Reset "bit POR) is detected.
The power failure may have corrupted the contents of the internal data registers, so the TDA8374 should be started up again.
The TDA8374 has a separate supply input (pin 37) that only used as a clean supply voltage for the horizontal oscillator circuits.

7-4. Vertical Synchronization

The vertical sawtooth generator drives the vertical output.
It uses an external capacitor at pin51 and a current reference resistor at pin 52.
The TDA8374 vertical drive has differential current outputs for DC-coupled vertical output stage, like the TDA8356.
At TDA8356 input pins1 and pin2 this current is converted into a drive voltage via a resistor.

7-5. Geometry processing

With the TDA8374 is possible to implement automatic geometry alignment, because all parameters are adjusted via the IIC bus.
The deflection processor of the TDA8374 offers the following five controls;

- Horizontal shift
- Vertical slope
- Vertical amplitude
- Vertical s-correction
- Vertical shift

7-6. Colour decoder

The colour decoder contains an alignment-free X-tal oscillator, a dual killer and difference demodulators.
Together with the TDA8395 SECAM add-on a multi standard PAL/SECAM/NTSC decoder can be built with automatic reconition.
Which standard can be decoded depends on the external X-tal used.
Two X-tal pins (34 and 36) are present so normally no external switching is required.
The IC must be told which X-tals are connected (bit XA and XB).
This is important, because the X-tal frequency of the colour decoder is also used to calibrate many internal circuit. The burst phase detector locks the X-tal oscillator with the chroma burst signal.
The phase detector operates during the burst key period only, to prevent disturbance of the PLL by the chroma signal. Two gain modes provide:

- Good catching range when the PLL is not locked.
- Low ripple voltage and good noise immunity once the PLL has locked.

The killer circuit switches off the R-Y and B-Y demodulators at very low input signal conditions (chroma burst amplitude).
A hysteresis prevents on/off switching at low,noisy signals.

Colour standard	pin34	pin35	XA	XB
PAL4.43/SECAM+NTSC4.43	none	4.43	1	0
PAL4.43/SECAM+NTSC-M	3.58	4.43	1	1

7-7. Integrated video filters

The TDA8374 has alignment-free internal luminance delay, chroma bandpass and chroma trap.
They are implemented as gyrator circuits tuned by tracking to the frequency of the chroma X-tal oscillator.
The chroma trap in the Y signal path is by-passed when Y/C input is selected (S-VHS).
For SECAM an extra luminance delay is build-in, for correct delay of the luminance signal.

RGB output and black current stabilization
The colour difference signals (R-Y, B-Y)are matrixed with the luminance signal(Y) to obtain the RGBout output signals (pins 19, 20, 21).
In the TDA8374 the matrix type automatically adapts to the decoded standard (NTSC, PAL).
Linear amplifiers are used to interface external RGB in signals (pins 23, 24, 25) from the SCART connector.
These signals overrule the internal RGB signals when the data insertion pin 26(FBI) is switched to a level between 1.0V and 3.0V.
The contrast and brightness control and the peak white limiter operate on both internal and external RGB signals.
R,G,B each have there own, independent gain control to compensate for the difference in phosphor efficiencies of the picture tube : so called "white point" adjustment.
The nominal amplitude is about 2V black to white, at nominal input signals and control settings.

TDA8374 has a black current stabilization loop, that automatically adjust the black level to the cut-off voltage of the picture tubes three gun cathodes.
Since no current is following when the voltage the cathode is equal to the cut-off voltage of the tube, the loop stabilizes at a very small gun current.
This "black current" of the three guns is measured internally and compared with a reference current, to adjust the black level of RGBout.
The black level loop is active during 4lines at the and of the vertical blanking.
In the first line the leakage current is measured (max.acceptable 100μA).
In the next three lines the black levels of the three guns are adjuster.
The nominal value of the "black current" is 10μA.
The ratio of the "black current" for the 3guns tracks automatically with the white point adjustment, so the back-ground colour is the same as the adjusted white point.

At switch-on of the TV receiver the black current stabilization circuit is not yet active and RGBout are blanked. Before the first measurement pulses appear, 0.5sec delay ensures that the deflection is active, so the pulses will not be visible on the screen.

During the measuring lines RGBout will supply 4V pulses to the video output stages.
The TDA8374 waits until the black current feedback input (pin18) exceeds 200㎂, which indicates that the picture tube warm-up.
Then the black current stabilization circuit is active.
After a waiting time of about 1.0sec, the blanking of RGBout is released.

7-8. Tuning

The AFC information of the TDA8374 is not available as an analogue voltage.
Automatic following (=frequency tracking, AFC) can be done via the IIC bus by software.
The TDA8374 AFC window is typically 80kHz wide.
This value is made higher than the 62.5kHz tuning step, to prevent an automatic following loop from continuously adapting the tuning frequency.
With this AFC window (40kHz) the maximum tuning error is less than 62.5kHz.
For high speed search-tunung-algorithms,the AFC window can be widened to 240kHz via bit AFW.

7-9. TDA8395 SECAM DECODER

The TDA8395 is an alignment-free SECAM colour decoder, including a cloche filter, demodulator and line identification circuit.

The cloche filter is a gyrator-capacitor type.
Its frequency is calibrated in the vertical retrace period.
The calibration reference(pin1) is obtained from the TDA8374 colour X-tal oscillator.(pin33).
Pin 7 is a decoupling for the cloche reference.
The voltage change at this pin due to leakage currents should be lower than 10mV, during field scan, resulting in a capacitor if minimal 100nF.
Pin 8 is the reference capacitor for the PLL.
The voltage variation during field scan at this pin should be lower than 2mV, resulting in a capacitor of 220nF.
The sandcastle input (pin15) is connected to TDA8374 pin41 and is used for generation of the blanking periods and provides clock information for the identification circuit.
The CVBS source select output (TDA8374 pin38) supplies SECAM chroma to pin 16 of the TDA8395.
This is demodulated by a PLL demodulator, that uses the reference frequency at pin 1 and a bandgap reference to obtain the desired demodulation characteristic.
If the digital line identification in the TDA8395 detects SECAM, pin1 will sink a current of 150ßÀ out of TDA8374 SECAM ref pin33.
When the TDA8374 has not detected PAL or NTSC, will respond by increasing the voltage at pin33 from 1.5V to 5V. Now the TDA8374 colour difference outputs pin30 and 29 are made high-ohmic and the TDA8395 output pin 9 and 10 are switched on.
These outputs will be disconnected and high-ohmic when no SECAM is detected for two frame periods, the decoder will be initialized before trying again.

7-10. Base band delay line TDA4665

TDA4665 is an integrated double baseband delay line of 64μs.
It couples to the TDA8374 and TDA8395 without any switches or alignments.
The TDA4665 consist of two main blocks :

- Two delay lines of 64μs in switched capacitor technique
- Internal clock generation of 3MHz, line locked to the sandcastle pulse.

The TDA4665 operates according to the mode demanded by the colour transmission standard :

- For PAL it operates as geometric adder to satisfy the PAL demodulation requirements
- In NTSC mode it reduces cross colour interference (comb-filtering).
- For SECAM it repeats the colour difference signal on consecutive horizontal scan lines.

A sandcastle pulse is connected to pin 5.
The top pulse voltage (should not exceed 5V) can be directly coupled to the 5V sandcastle output of the TDA8374. The R-Y and B-Y colour difference signals (from TDA8374 pins 30 and 29) are AC-coupled and clamped by the input stages at pins 16 and 14.
An internal 6MHz current controlled oscillator is line locked via a PLL to the sandcastle pulse at pin 11 and 12. This clock drives the delay lines to obtain the required 64ß¡.
Sample and hold low pass filters supress the clock signal.
The original and the delayed signals are added, buffered and fed to the output pins 11 and 12.
These are AC-coupled to the R-Y and B-Y colour difference input pins 32 and 31 of TDA8374.
The TDA4665 needs a 5Vsupply voltage on pin 1 for the digital part and on pin 9 for the analogue part.

7-11. TDA8356 Vertical deflection.

The TDA8356 is a vertical deflection circuit.
It can be used in 90°C deflection systems with frame frequencies from 50 up to 120Hz.
With its bridge configuration the deflection output can be DC coupled with few external components.
Only a supply voltage for the scan and a second supply for the flyback are needed.
The TDA8356 can drive max. 2A.
The vertical drive currents of TDA8374 pins 47 and 46 are connected to input pins 1, 2 of the TDA8356.
The currents are converted into a voltage by a resistor between pins 1 and 2.
Pin 2 is on a fixed DC level (internal bias voltage) and on pin 1 the drive voltage can be measured (typical 1.8Vp-p).
The drive voltage is amplified by 'A' and fed to two amplifiers 'B' and 'C', one is inverting and the other is a non inverting amplifier.
The outputs(pins 4 and 7) are connected to the series connection of the vertical deflection coil and feedback resistor. The voltage across feedback resistor is fed via pin9 to correction amplifier'D',to obtain. a deflection current which is proportional to the drive voltage.
The supply voltage for the TDA8356 is 16V at pin 3.
The flyback generator has a separate supply voltage of 45V on pin 6.
The guard pulse is useful to synchronize OSD.

7-12. Horizontal deflection

The circuit contains H drive, line output transformer.
The H drive pulses from the TDA8374 are amplified in the horizontal drive circuit, to get sufficient base drive current for the high voltage switching transistor Q402.
During the horizontal scan period (=52μs) Q402 will conduct, and a sawtooth current flows from +123V through the primary winding of the FBT to ground.
After this time Q402 is switched-off and the energy stored in the FBT during the scan period will be transformed to the flyback capacitor C406, C416.
This energy transfer will take place in a cosine shape because the primary of the FBT and C406, 416 from a resonant circuit.
The time the energy is transfered from FBT to C406,416 and back to the FBT, is called the flyback time and will take place in about 12μs.
The flyback peak voltage is about 8 times the scan voltage.
In series with the horizontal deflection coil there is a (damped) linearity corrector coil.
During the scan there is some loss in the resistance of the deflection coil.
In the first part of a line the linearity corrector stores some energy in a permanent magnet until it is saturated.
This improves the linearity of the horizontal scan speed.
The required S-correction for the picture tube can be adjusted with the value of C415.
The beam current limiting information is derived from the foot of the H.V winding of the FBT.
This is connected via resistor to +8V.
As the beam current increase, the voltage on line beam current decreases.
Beam current is damped by a integration filter before it is fedback to TDA8374 pin 22.
The TDA8374 will decrease the contrast(and eventually the brightness)to limit the average beam current.

7-13. Video amplifiers

Three TDA6106Q integrated video amplifiers drive cathode of the picture tube directly.
They are protected against CRT flashover discharges and ESD (electro static discharge).
The three video amplifiers, have a beam current output I black, used by the TDA8374 black current loop to control the black level on the cathodes.
The outputs can be connected together because the black current loop sequentially controls the black level for each cathode.
The amplification of the TDA6106Q is set by the resistors between pin 3 and 9 and between pin 3 (negative-input) and the TDA8374 output.
There are no alignment any more on the CPT panel, because of the automatic black current stabilization and because the white point adjustment can be done in the TDA8374 via IIC bus.

7-14. Power supply STR-S5707

1. Vin terminal, start-up circuit
   A start-up circuit is to start and stop a operation of a control IC by detecting a voltage appearing at a Vin terminal (pin 9).
   At start up of a power supply, when a voltage at the Vin terminal reaches to 8V (typical) by charging up C817 by the function of a start-up resistor, R804, a control circuit starts operating by the function of the start-up circuit.
   After the control circuit starts its operation, power source is obtained by smoothing voltage appearing at winding of pin 6,7 of T801.
2. Oscillator,F/B terminal voltage (pin 7)
   A oscillator generates pulse signals which turns a power transistor on and off by making use of charge and discharge of C1 and C2 incorporated in the Hybrid IC.
   Constant voltage control of a switch-mode power supply is performed by changing both on-time and off-time except when the load is light (ex. remote control stand-by mode of TVs).
   The on-time is controlled by changing a current charged by C1, which is as the result of that the detection winding of pin 5-7 of T801, which detects a change of voltage in a secondary side, connected to the sensing terminal (pin 7). has the current in accordance with an output signal from an output voltage detection circuit (an error amplifier) built in.
   As an AC input voltage to the power supply gats the higher and a load current the smaller, the current flowing to the SENS terminal gets the larger, and the on-time gets the shorter.
3. Function of INH terminal (pin 6), control of off-time
   Signal to the INH terminal is used as inputs to COMP.1 and COMP.2 inside of the control IC.
   A threshold voltage of COMP.1,VTH1 is set at 0.75V(Ta=25℃) and an input signal to a drive circuit becomes almost 0V (the power transistor is in OFF mode) when a voltage at the INH terminal reaches the VTH1.
   A threshold voltage of COMP.2, VTH2, is set at 1.5V (Ta=25℃).
   When the INH terminal voltage reaches VTH2, an output from COMP.2 reverses (the power TR is in on mode).

※ Quasi-resonant operation

By inputting the voltage of winding of pin 6-7 of T801 which is synchronized with the energy discharge time of a secondary winding to the INH terminal through D810 and R808 , quasi-resonant operation can be achieved.
When the power transistor turns off and a voltage higher than VTH2 is applied to the INH terminal, C3 immediately discharges and then starts charging again.
Even after the discharge of energy of a secondary winding is completed, VINH does not immediately increases. when it gets lower than VTH1, the transistor turns on.

4. Drive circuit
   The STR-S5707 applies the proportional drive system in order to minimize turn-on and saturation loss, and storage time.
5. OCP function
   Over-current protection is performed pulse by pulse by directly detecting collector current of the power transistor. detecting voltage is set to -1V below a reference point of GND (ground).
6. Latch circuit which sustains an output from the oscillator low and stops operation of the power supply when over-voltage protection (OVP) circuit and thermal shutdown (TSD) circuit are in operation.
   As the sustaining current of the latch circuit is 500㎂ maximum when Vin terminal voltage is 4V,

the power supply circuit sustains the off state as long as current of 500㎂ minimum flows to Vin terminal from a start up resistor.
In order to prevent a malfunction to be caused by a noise and so on, delay time is provided by C1 incorporated in the IC and, therefore, the latch circuit operates when the OVP or TSD circuit is in operation, or an external signal input is provided for about 10㎲ or longer.
In addition, even after the latch circuit start operating, the constant voltage regulator circuit is in operation and the circuit current is at high level.
As a result, Vin terminal voltage rapidly decreases.
When Vin terminal voltage becomes lower than the shutdown voltage, VIN(OFF) (4.9V typical), it starts increasing as the circuit current is below 500㎂.
When it reaches the ON-state voltage, VIN(ON) (8V typical), Vin terminal voltage starts decreasing because the circuit current increases again.
When the latch circuit is on, Vin terminal voltage increases and decreases within the range from 4.9V typical to 8V typical and is prevented from abnormally rising.
Calibration of the latch is done by decreasing Vin terminal voltage below 3.3V.
The power supply can be restarted after disconnecting an AC input to the power supply once.

7. Thermal shutdown circuit
   It is a circuit to trigger the latch circuit when the frame temperature of the IC exceeds 150℃ (typical).
   Although the temperature is actually sensed at the control chip, it works against overheating of the power transistor as the power transistor and the control IC are mounted on the same lead frame.
8. Over-voltage protection circuit
   It is a circuit to trigger the latch circuit when Vin terminal voltage exceeds 11V(typical).
   Althrough it basically functions as protections as protection of Vin terminal against over-voltage, since Vin terminal is usually supplied from the drive winding of the transformer and the voltage is propor ational to the output voltage, it also functions against the over-voltage of secondary output which causes when the control circuit opens or in some other events.

7-15. Stand-by Mode TOP210

This IC(TOP210) is used for low-power concumption when receiver is operating in stand-by mode.

1. DRAIN PIN (pin5)
   Output MOSFET drain connection. Provides internal bias current during start-up operation via an internal switched high voltage current source. Internal current sense point.
2. CONTROL PIN (pin4)
   Error amplifier and feedback current input pin for duty cycle control.
   Internal bias current during normal operation.
   It is also used as the supply bypass and auto-restart/compensation capacitor connection point.

8. VOLTAGE CHARTS

1. TDA9800 (I201) : B/G.

PIN NO.	VOLT.	PIN NO.	VOLT
1	3.33	11	2.60
2	3.33	12	3.24
3	0.68	13	2.0
4	0.21	14	2.0
5	1.825	15	2.37
6	2.60	16	2.75
7	2.5	17	2.75
8	4.9	18	0
9	2.185	19	3.24
10	1.334	20	5.0

TDA9802 (I201) : SECAM-L

PIN NO.	VOLT.	PIN NO.	VOLT.
1	3.33	11	2.60
2	3.33	12	3.24
3	0.68	13	2.0
4	0.21	14	2.0
5	1.825	15	2.37
6	2.60	16	2.75
7	2.5	17	2.75
8	0	18	0
9	2.185	19	3.24
10	1.334	20	5.0

2. TDA8374AN3 (I501)

PIN NO.	VOLT.	PIN NO.	VOLT.	PIN NO.	VOLT.	PIN NO.	VOLT.
1	0	15	3.12	29	1.698	43	3.822
2	3.725	16	3.61	30	1.705	44	0
3	3.53	17	3.674	31	3.83	45	0.98
4	3.53	18	5.525	32	3.825	46	2.237
5	2.71	19	3.159	33	1.548	47	2.247
6	3.035	20	3.477	34	2.571	48	4.189
7	4.674	21	2.949	35	2.571	49	4.19
8	4.714	22	1.892	36	4.874	50	1.6
9	6.51	23	3.374	37	7.952	51	3.722
10	3.91	24	3.360	38	3.242	52	3.828
11	3.312	25	3.36	39	6.055	53	3.744
12	7.842	26	0.152	40	3.452	54	3.006
13	3.69	27	2.406	41	0.707	55	2.947
14	0	28	2.404	42	4.538	56	4.21

3. TDA4665 (I502)

PIN NO.	VOLT.	PIN NO.	VOLT.
1	4.862	9	4.858
2	0	10	0
3	0	11	2.938
4	0	12	2.94
5	0.7	13	0
6	0.56	14	1.2
7	2.24	15	0
8	0	16	1.2

4. TDA8395 (I503)

PIN NO.	VOLT.	PIN NO.	VOLT.
1	1.546	9	1.7
2	1.12	10	1.7
3	7.782	11	0
4	0	12	0
5	0	13	0
6	0	14	0
7	3.267	15	0.7
8	4.19	16	3.256

4. TC4053 (I504)

PIN NO.	VOLT.	PIN NO.	VOLT.	PIN NO.	VOLT.	PIN NO.	VOLT.
1	0.285	5	2.825	9	0	13	0
2	2.785	6	0	10	0	14	0
3	3.066	7	0	11	0	15	2.786
4	2.844	8	0	12	0	16	5.88

5. TDA7056 (I601)

PIN NO.	VOLT.
1	0
2	13.8
3	0
4	0
5	0
6	6.9
7	0
8	6.9
9	0

6. 24C08P (I703)

PIN NO.	VOLT.
1	0
2	0
3	0
4	0
5	5.26
6	5.1
7	0
8	5.1

7. BA6209 (IN03)

PIN NO.	REC	PB
1	0	0
2	0.5	0.5
3	0.84	0.84
4	6.1	6.1
5	0	0
6	0	0
7	12.3	12.5
8	12.3	12.5
9	0.86	0.86
10	0.5	0.5

8. STV8225 (IL01)

PIN NO.	VOLT.	PIN NO.	VOLT.
1	4.3	8	6.4
2	3.9	9	4.3
3	0	10	0.6
4	3.1	11	1.9
5	4.3	12	8.3
6	4.5	13	4.3
7	4.3	14	4.3

STV8225 (IL02)

PIN NO.	VOLT.	PIN NO.	VOLT.
1	4.6	8	6.4
2	4.7	9	3.1
3	0	10	0
4	0	11	4.3
5	3.1	12	8.7
6	4.3	13	4.3
7	4.3	14	4.35

9. TA1238N (IY03)

PIN NO.	REC	PB
1	2.48	2.49
2	2.72	2.40
3	2.97	2.97
4	4.10	4.12
5	5.05	5.05
6	4.68	4.68
7	4.75	4.75
8	0.00	0.00
9	0.56	0.56
10	0.00	0.00
11	3.27	3.27
12	1.84	1.89
13	3.44	3.45
14	0.00	0.00
15	1.90	1.90
16	3.24	3.24
17	5.03	5.03
18	2.55	2.65
19	1.74	1.74
20	0.00	0.00
21	2.63	2.63
22	2.61	2.63
23	3.45	1.86
24	2.57	2.57

10. LA70001 (IY04)

PIN NO.	REC	PB
1	2.03	2.04
2	0.32	0.34
3	0.00	0.00
4	1.11	1.10
5	0.29	0.28
6	0.92	3.54
7	0.00	1.73
8	0.00	0.00
9	3.48	0.31
10	3.47	0.30
11	4.22	0.08
12	2.53	2.54
13	0.00	5.04
14	4.10	5.04
15	1.56	0.00
16	3.96	2.03
17	3.91	2.03
18	2.52	0.01
19	3.95	2.03
20	0.00	0.00
21	1.10	0.73
22	1.10	0.73
23	2.54	0.01
24	1.10	0.73

11. LA71511MQ

PIN NO	REC	PB	PIN NO	REC	PB	PIN NO	REC	PB	PIN NO	REC	PB
1	2.44	2.40	21	0.35	0.39	41	0.0	0.06	61	2.05	2.02
2	0.01	0.00	22	1.56	2.25	42	2.00	1.97	62	0.21	0.26
3	2.44	2.41	23	0.02	1.80	43	0.48	0.47	63	4.48	4.48
4	1.03	0.05	24	2.41	1.82	44	1.83	1.84	64	4.75	4.75
5	1.35	5.51	25	2.15	2.08	45	1.96	1.95	65	0.31	0.31
6	0.86	0.02	26	3.08	3.03	46	0.03	2.70	66	0.00	0.40
7	2.42	2.39	27	0.00	0.06	47	5.09	5.07	67	0.04	0.04
8	2.46	2.40	28	1.80	0.28	48	2.85	2.84	68	0.06	0.61
9	2.37	2.37	29	1.90	2.16	49	4.42	4.24	69	5.09	5.08
10	2.37	2.37	30	2.11	0.00	50	2.92	2.91	70	0.02	0.00
11	3.07	2.38	31	4.08	4.08	51	4.23	4.25	71	2.39	2.38
12	2.32	2.31	32	1.80	0.28	52	3.22	3.20	72	0.01	0.01
13	1.71	2.08	33	0.58	0.58	53	0.00	0.04	73	2.39	2.38
14	2.95	0.31	34	2.17	0.00	54	2.15	2.09	74	2.41	2.41
15	0.00	3.25	35	3.14	3.16	55	5.15	5.13	75	2.39	2.38
16	2.56	2.59	36	5.09	5.06	56	5.15	5.13	76	5.15	5.14
17	3.32	1.64	37	0.59	0.59	57	0.01	0.00	77	2.49	2.48
18	2.11	1.56	38	1.70	1.78	58	0.19	3.54	78	0.00	0.00
19	4.30	0.08	39	3.19	3.18	59	2.46	2.09	79	2.40	2.38
20	3.14	3.05	40	3.01	3.00	60	4.07	4.03	80	5.14	0.15

12. LC89977M (IY02)

PIN NO.	REC	PB
1	2.60	2.60
2	5.04	5.05
3	2.59	2.59
4	0.00	0.01
5	2.54	2.53
6	0.00	0.00
7	1.75	1.73
8	9.18	9.18
9	2.17	2.18
10	0.83	0.83
11	0.04	0.04
12	0.42	0.42
13	1.97	1.97
14	0.00	0.01

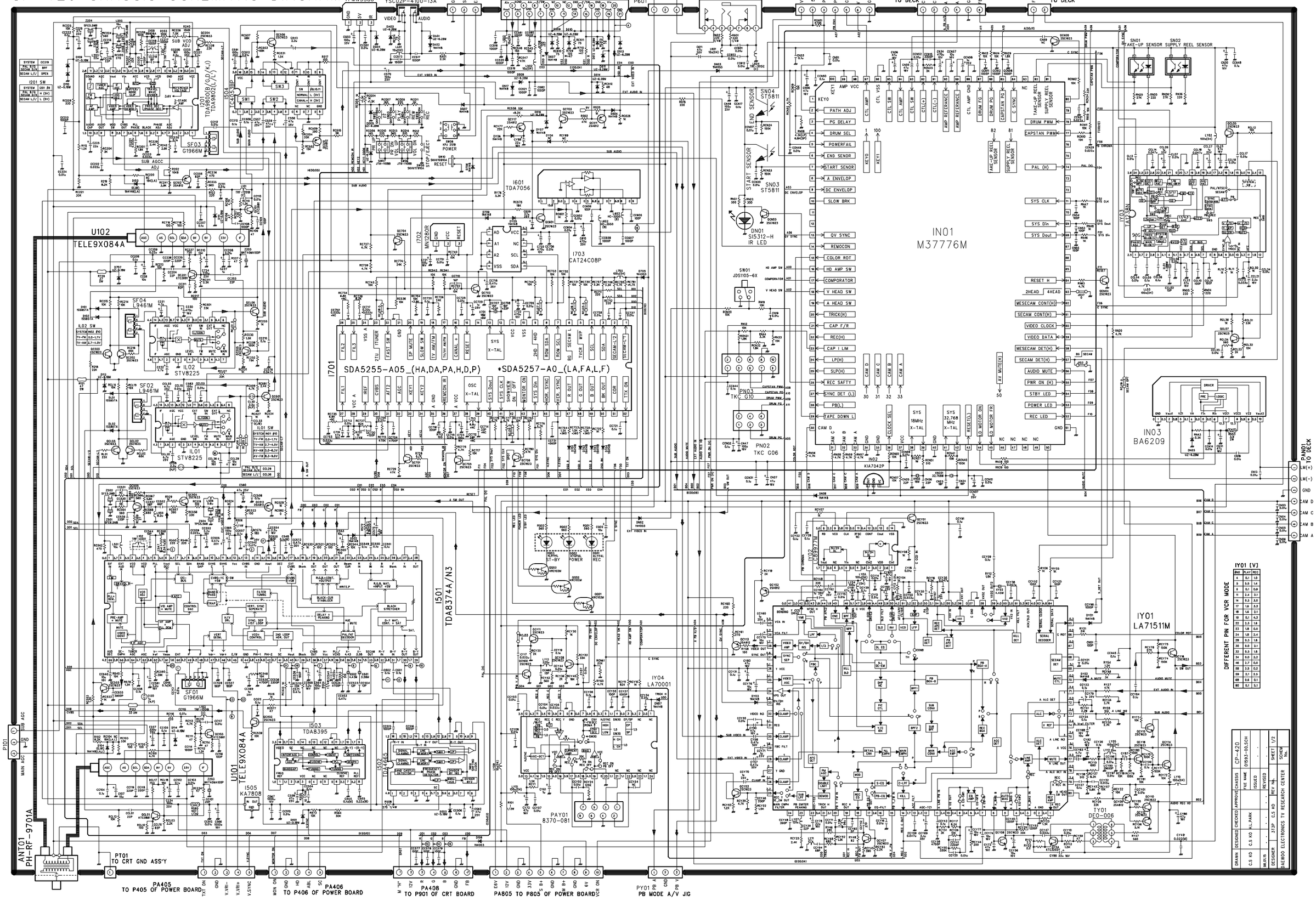
13. MN-1280R (I702)

PIN NO	VOLT
1	0
2	5.2
3	5.2

14. KIA7042P (IN02)

PIN NO	VOLT
1	5.2
2	0
3	5.2

CP-420 CHASSIS SCHEMATIC DIAGRAM

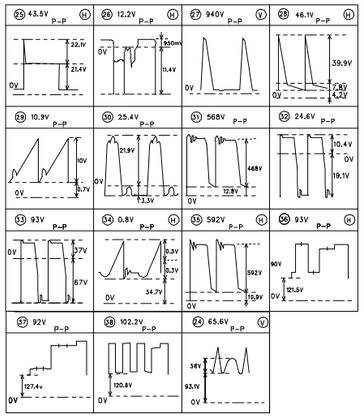


SAFETY CAUTION :

BEFORE SERVICING THIS CHASSIS IT IS IMPORTANT THAT
THE SERVICE TECHNICIAN READ AND FOLLOW THE
"X-RAY RADIATION PRECAUTION. "SAFETY PRECAUTIONS"
AND "PRODUCT SAFETY NOTICE" IN THE SERVICE MANUAL.

PRODUCT SAFETY NOTE :

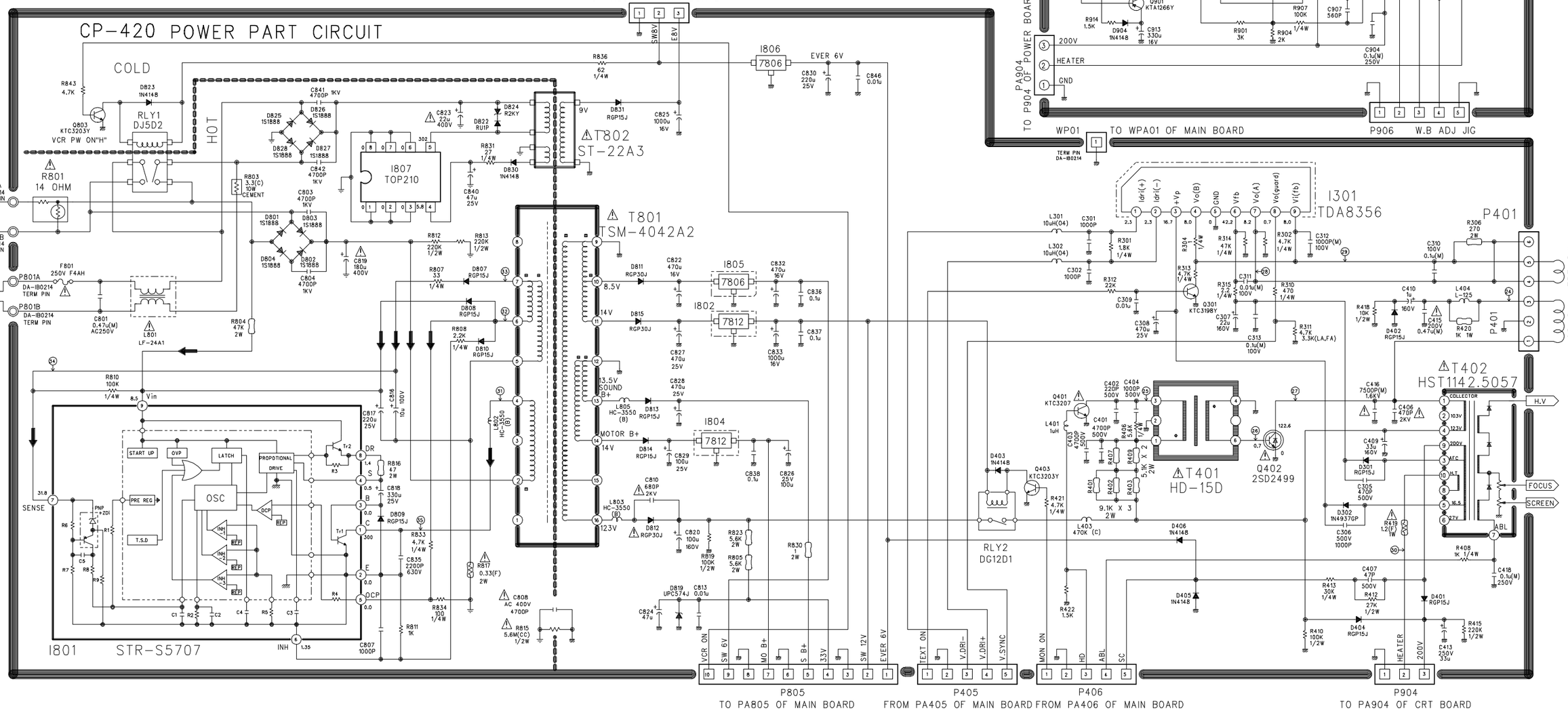
COMPONENTS MARKED WITH⚠ ARE IMPORTANT FOR MAINTAINING.
THE SAFETY OF THE SET AND SHOULD BE REPLACED ONLY
WITH TYPES IDENTICAL TO THOSE IN THE ORIGINAL OR
SPECIFIED ONE IN THE PARTS LIST.
DON'T DEGRADE THE SAFETY OF THE SET THROUGH
IMPROPER SERVICING.



DIFFERENT PARTS FOR SIZE

NO	LOC	PART	14"	20"
1	L404	COIL H-LINEARITY	L-125	L-102
2	C415	C MYLAR	200V PU 0.47uF	200V PU 0.36uF
3	R834	R CARBON FILM	1/4W 100	1/4W 91
4	R833	R CARBON FILM	1/4W 4.7K	1/4W 5.1K
5	R301	R CARBON FILM	1/4W 1.8K	1/4W 2.2K
6	R419	R M-OXIDE FILM	1W 1.2	1W 2.4
7	R572	R CARBON FILM	1/6W 8.2K	1/6W 6.8K

DRAWN	DESIGNED	CHECKED	APPROVE	CHASSIS	CP-420
C.S KO	C.S KO	H.L.PARK		FILE NAME	10711-00.SCH
				ISSUED	. .
98.01.121	. .	. .	. .	REVISED	. .
DESIGNER	3T3P C.S KO		REV No.	SHEET	1/1
DAEWOO ELECTRONICS TV RESEARCH CENTER				SCHEM No.	



SCHEMATIC DIAGRAM
CHASSIS : CP - 420

* PAL - B/G
* PAL/SECAM - B/G, D/K
  NTSC - 3.58/4.43 (AV)
* PAL - B/G
  SECAM - L
* PAL - I

RUN NO.19 Jan.1998.

NOTES :

1. ALL RESISTORS ARE 1/6 WATT UNLESS OTHERWISE NOTED.
   (CHIP RESISTORS ARE 1/10 WATT)
2. CAPACITANCE VALUES 1 AND ABOVE ARE IN pF EXCEPT AS INDICATED.
3. INDUCTOR VALUES ARE IN uH EXCEPT AS INDICATED.
4. ALL DIODE ARE 1N4148 EXCEPT AS INDICATED.
5. ALL NPN TRANSISTOR ARE 2SC1623, ALL PNP TRANSISTER ARE 2SA812 EXCEPT AS INDICATED
6. ALL THE DC VOLTAGES IN EACH POINT ARE MEASURED WITH DIGITAL VOLTMETER UNDER THE STANDARD PAL COLOUR BAR SIGNAL INPUT (5 CHANNEL) AND ALL CONTROLS SET TO THE MAXIMUM POSITION.
   AT NOMINAL LINE VOLTAGE AC 230V 50HZ
7. SINCE THIS SCHEMATIC DIAGRAM IS A STANDARD ONE THE CIRCUIT AND CIRCUIT CONSTANTS MAY BE SUBJECT TO CHANGE FOR IMPROVEMENT WITHOUT ANY NOTICE.

SAFETY CAUTION :

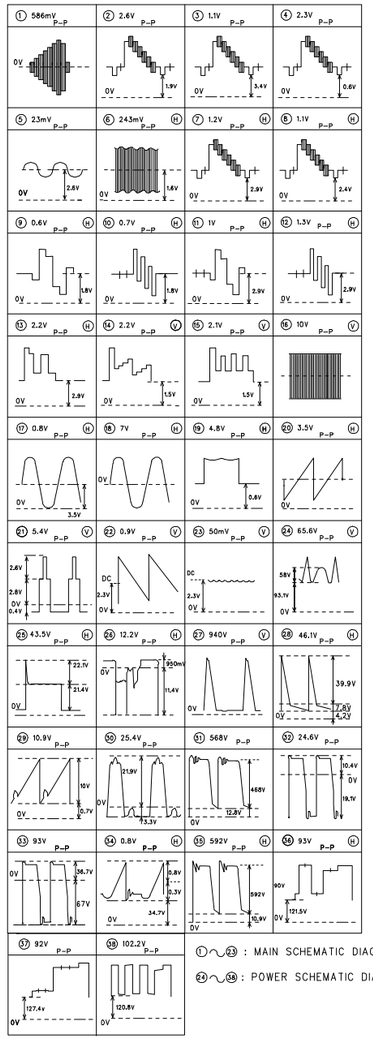
BEFORE SERVICING THIS CHASSIS IT IS IMPORTANT THAT THE SERVICE TECHNICIAN READ AND FOLLOW THE "X-RAY RADIATION PRECAUTION, "SAFETY PRECAUTIONS" AND "PRODUCT SAFETY NOTICE" IN THE SERVICE MANUAL.

PRODUCT SAFETY NOTE :

COMPONENTS MARKED WITH ⚠ ARE IMPORTANT FOR MAINTAINING. THE SAFETY OF THE SET AND SHOULD BE REPLACED ONLY WITH TYPES IDENTICAL TO THOSE IN THE ORIGINAL OR SPECIFIED ONE IN THE PARTS LIST.
DON'T DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

WAVE FORMS

VIDEO : 8 STEP PAL COLOR BAR 87.5% AM
AUDIO : 1KHz SINE WAVE 60% FM



① ~ ㉓ : MAIN SCHEMATIC DIAGRAM

㉔ ~ ㊳ : POWER SCHEMATIC DIAGRAM

DIFFERENT PART FOR SYSTEM

NO	LOC	PART	PAL B/G [FA]	P/S-B/G,D/K [DA]	P-I [PA]	P/S-B/G S-L/L' [LA]
1	C229	C ELECTRO	X	X	X	25V RSS 47uF
2	C231	C ELECTRO	X	X	X	50V RSS 4.7uF
3	C232	C ELECTRO	X	X	X	50V RSS 4.7uF
4	C545	C MYLAR	X	100V 0.1uF	X	100V 0.1uF
5	C555	C MYLAR	X	50V EU 0.22uF	X	50V EU 0.22uF
6	C558	C ELECTRO	X	25V RSS 47uF	X	25V RSS 47uF
7	CL07	C CERA	X	X	X	25V 0.01uF (A)
8	CL13	C CERA	X	X	X	25V 0.01uF (A)
9	CL22	C ELECTRO	X	X	X	16V RSM 47uF
10	CL23	C ELECTRO	X	X	X	16V RSM 47uF
11	CC101	C CHIP CERA	X	X	X	50V CH 22PF
12	CC203	C CHIP CERA	X	X	X	50V CH 22PF
13	CC204	C CHIP CERA	X	X	X	50V CH 22PF
14	CC211	C CHIP CERA	X	X	X	50V CH 82PF
15	CC217	C CHIP CERA	X	X	X	50V 1000PF
16	CC218	C CHIP CERA	X	X	X	50V 1000PF
17	CC219	C CHIP CERA	50V CH 8PF	50V CH 8PF	50V CH 8PF	X
18	CC222	C CHIP CERA	X	X	X	50V 0.1uF
19	CC504	C CHIP CERA	X	50V 0.1uF	X	50V 0.1uF
20	CC710	C CHIP CERA	X	X	X	50V CH 16PF
21	CC718	C CHIP TANTAL	X	X	X	35V 0.47uF
22	CCL01	C CHIP CERA	X	X	X	50V CH 22PF
23	CCL02	C CHIP CERA	X	X	X	50V CH 15PF
24	CCL03	C CHIP CERA	X	X	X	50V 0.01uF
25	CCL04	C CHIP CERA	X	X	X	50V 0.01uF
26	CCL05	C CHIP CERA	X	X	X	50V 0.1uF
27	CCL06	C CHIP CERA	X	X	X	50V 0.1uF
28	CCL08	C CHIP CERA	X	X	X	50V 0.01uF
29	CCL10	C CHIP CERA	X	X	X	50V CH 100PF
30	CCL12	C CHIP CERA	X	X	X	50V 0.033uF
31	CCL14	C CHIP CERA	X	X	X	50V 0.047uF
32	CCL15	C CHIP CERA	X	X	X	50V 0.01uF
33	CCL16	C CHIP CERA	X	X	X	50V CH 82PF
34	CCL17	C CHIP CERA	X	X	X	50V 0.01uF
35	CCL18	C CHIP CERA	X	X	X	50V 0.047uF
36	CCL19	C CHIP CERA	X	X	X	50V 0.01uF
37	CCL20	C CHIP TANTAL	X	X	X	25V 4.7uF
38	CCL21	C CHIP TANTAL	X	X	X	16V 2.2uF
39	CCL26	C CHIP TANTAL	X	X	X	25V 1uF
40	CCL27	C CHIP TANTAL	X	X	X	25V 1uF
41	CCL29	C CHIP TANTAL	16V 10uF	16V 10uF	16V 10uF	X
42	CCL30	C CHIP TANTAL	X	X	X	25V 4.7uF
43	CCL31	C CHIP CERA	X	X	X	50V CH 100PF
44	CCL34	C CHIP CERA	X	X	X	50V 0.01uF
45	CCL35	C CHIP CERA	X	X	X	50V 0.01uF
46	CCL36	C CHIP TANTAL	X	X	X	16V 10uF
47	D101	DIODE	X	X	X	1S2186
48	D102	DIODE	X	X	X	1S2186
49	D108	DIODE	X	X	X	BB909A
50	D109	DIODE ZENER	X	X	X	UZ_5.1BM
51	D110	DIODE	X	X	X	UZ_5.1BM
52	DL01	DIODE	X	X	X	1S2186
53	DL02	DIODE	X	X	X	1S2186
54	I201	IC	TDA9800	TDA9800	TDA9800	TDA9802
55	I501	IC	TDA8374A/N3	TDA8374A/N3	TDA8374A/N3	TDA8374/N3
56	I503	IC	X	TDA8395	X	TDA8395
57	IL01	IC	X	X	X	STV8225
58	IL02	IC	X	X	X	STV8225
59	IY03	IC	X	X	X	TA1238N
60	J014	WIRE COPPER	X	X	X	JUMPER WIRE
61	J029	WIRE COPPER	X	X	X	JUMPER WIRE
62	J032	WIRE COPPER	X	X	X	JUMPER WIRE
63	J039	WIRE COPPER	X	X	X	JUMPER WIRE
64	J050	WIRE COPPER	X	X	X	JUMPER WIRE
65	J085	WIRE COPPER	X	X	X	JUMPER WIRE
66	J103	WIRE COPPER	JUMPER WIRE	JUMPER WIRE	JUMPER WIRE	X
67	J113	WIRE COPPER	X	X	X	JUMPER WIRE
68	J114	WIRE COPPER	X	X	X	JUMPER WIRE
69	J115	WIRE COPPER	X	X	X	JUMPER WIRE
70	J179	WIRE COPPER	X	X	X	JUMPER WIRE

DIFFERENT PART FOR SYSTEM

NO	LOC	PART	PAL B/G [FA]	P/S-B/G,D/K [DA]	P-I [PA]	P/S-B/G S-L/L' [LA]
71	J188	WIRE COPPER	X	X	X	JUMPER WIRE
72	J219	WIRE COPPER	X	X	X	JUMPER WIRE
73	J238	WIRE COPPER	X	X	X	JUMPER WIRE
74	J269	WIRE COPPER	X	X	X	JUMPER WIRE
75	J274	WIRE COPPER	X	X	X	JUMPER WIRE
76	J289	WIRE COPPER	X	X	X	JUMPER WIRE
77	J295	WIRE COPPER	X	X	X	JUMPER WIRE
78	LL03	COIL PEAKING	X	X	X	100uH (04)
79	LY02	COIL PEAKING	X	X	X	100uH (04)
80	QC201	TR CHIP	X	X	X	KTC3881
81	QC202	TR CHIP	X	X	X	2SC1623
82	QC203	TR CHIP	X	X	X	2SC1623
83	QC204	TR CHIP	X	X	X	2SC1623
84	QC7D2	TR CHIP	X	X	X	2SC1623
85	QC704	TR CHIP	X	X	X	2SC1623
86	QCL01	TR CHIP	X	X	X	KTC3881
87	QCL02	TR CHIP	X	X	X	2SC1623
88	QCL03	TR CHIP	X	X	X	2SC1623
89	QCL05	TR CHIP	X	X	X	2SC1623
90	QCL07	TR CHIP	X	X	X	2SC1623
91	RC209	R CHIP	X	X	X	1/10W 100K
92	RC210	R CHIP	X	X	X	1/10W 15K
93	RC211	R CHIP	X	X	X	1/10W 2.2K
94	RC213	R CHIP	X	X	X	1/10W 10K
95	RC214	R CHIP	X	X	X	1/10W 10K
96	RC215	R CHIP	X	X	X	1/10W 10K
97	RC216	R CHIP	X	X	X	1/10W 68K
98	RC217	R CHIP	X	X	X	1/10W 100
99	RC225	R CHIP	X	X	X	1/10W 10K
100	RC226	R CHIP	X	X	X	1/10W 7.5K
101	RC228	R CHIP	X	X	X	1/10W 22K
102	RC229	R CHIP	X	X	X	1/10W 330
103	RC234	R CHIP	X	X	X	1/10W 47
104	RC237	R CHIP	X	X	X	1/10W 750
105	RC501	R CHIP	X	X	X	1/10W 33K
106	RC541	R CHIP	X	X	X	1/10W 10K
107	RC542	R CHIP	X	X	X	1/10W 10K
108	RC702	R CHIP	X	X	X	1/10W 10K
109	RC726	R CHIP	X	X	X	1/10W 24K
110	RC727	R CHIP	X	X	X	1/10W 4.7K
111	RC731	R CHIP	X	X	X	1/10W 10K
112	RC739	R CHIP	X	X	X	1/10W 4.7K
113	RC774	R CHIP	X	X	X	1/10W 24K
114	RCJ05	R CHIP	1/10W 0	1/10W 0	1/10W 0	X
115	RCJ06	R CHIP	1/10W 0	1/10W 0	1/10W 0	X
116	RCJ19	R CHIP	X	X	X	1/10W 0
117	RCJ26	R CHIP	1/10W 0	1/10W 0	1/10W 0	X
118	RCJ31	R CHIP	1/10W 0	1/10W 0	1/10W 0	X
119	RCJ33	R CHIP	X	X	X	1/10W 0
120	RCL02	R CHIP	X	X	X	1/10W 68K
121	RCL03	R CHIP	X	X	X	1/10W 2.2K
122	RCL07	R CHIP	X	X	X	1/10W 33K
123	RCL12	R CHIP	X	X	X	1/10W 10K
124	RCL13	R CHIP	X	X	X	1/10W 10K
125	RCL14	R CHIP	X	X	X	1/10W 10K
126	RCL15	R CHIP	X	X	X	1/10W 10K
127	RCL16	R CHIP	X	X	X	1/10W 100
128	RCL17	R CHIP	X	X	X	1/10W 750
129	RCL18	R CHIP	X	X	X	1/10W 15K
130	RCL30	R CHIP	X	X	X	1/10W 1K
131	RCL31	R CHIP	X	X	X	1/10W 33K
132	RCL32	R CHIP	X	X	X	1/10W 12K
133	RCL33	R CHIP	X	X	X	1/10W 2K
134	RCL34	R CHIP	X	X	X	1/10W 560
135	RCL36	R CHIP	X	X	X	1/10W 1K
136	R203	R CARBON FILN	X	X	X	1/6W 100K
137	R218	R CARBON FILN	X	X	X	1/6W 22K
138	R227	R CARBON FILN	X	X	X	1/6W 47
139	R240	R SEMI FIXED	X	X	X	10KB
140	R505	R CARBON FILN	X	1/4W 10	X	1/4W 10

DIFFERENT PART FOR SYSTEM

NO	LOC	PART	PAL B/G [FA]	P/S-B/G,D/K [DA]	P-I [PA]	P/S-B/G S-L/L' [LA]
141	RL01	R CARBON FILN	X	X	X	1/6W 22K
142	RL10	R CARBON FILN	X	X	X	1/6W 1K
143	RL11	R CARBON FILN	X	X	X	1/6W 1K
144	RN04	R CARBON FILN	X	X	X	1/6W 220
145	RN05	R CARBON FILN	X	X	X	1/6W 220
146	SF01	FILTER SAW	G1966M	K2950M	J1592M	G1966M
147	SF02	FILTER SAW	X	X	X	L9461M
148	SF03	FILTER SAW	G1966M	K2950M	J1592M	G1966M
149	SF04	FILTER SAW	X	X	X	L9461M
150	Z204	FILTER CERA	SFSH5.5MCB	SFSH5.5MCB	SFSH6.0MCB	SFSH5.5MCB
151	Z206	FILTER CERA	TPS5.5MB	TPS6.0MB	TPS6.0MB	TPS5.5MB
152	Z207	FILTER CERA	X	TPS6.5MB	X	X
153	Z501	FILTER CERA	X	SFSH6.5MCB	X	X
154	Z502	FILTER CERA	SFSH5.5MCB	SFSH5.5MCB	SFSH6.0MCB	SFSH5.5MCB
155	Z503	FILTER CERA	X	TPS6.5MB	X	X
156	Z504	FILTER CERA	TPS5.5MB	TPS6.5MB	TPS6.0MB	TPS5.5MB
157	R121	R METAL OXIDE	2W 30	2W 30	2W 30	2W 20
158	R738	R METAL OXIDE	2W 33	2W 33	2W 33	2W 27
159	CC530	C CHIP CERA	X	50V CH 150PF	X	X
160	RC564	R CHIP	X	1/10W 560	X	X
161	RN08	R CARBON FILN	1/6W 6.8K	1/6W 6.8K	1/6W 4.3K	1/6W 4.3K
162	PWC1	CORD POWER AS	CW4232 H03VVH2	CW4232 H03VVH2	CW3222/240V 5A	CW4232 H03VVH2
163	C107	C ELECTRO	50V RSS 10uF	50V RSS 10uF	50V RSS 10uF	25V RSS 47uF
164	C226	C ELECTRO	50V RSS 10uF	50V RSS 10uF	50V RSS 10uF	25V RSS 47uF

DIFFERENT PARTS FOR SIZE

NO	LOC	PART	14"	20"
1	L404	COIL H-LINEARITY	L-125	L-102
2	C415	C MYLAR	200V PU 0.47uF	200V PU 0.36uF
3	R834	R CARBON FILM	1/4W 100	1/4W 91
4	R833	R CARBON FILM	1/4W 4.7K	1/4W 5.1K
5	R301	R CARBON FILM	1/4W 1.8K	1/4W 2.2K
6	R419	R M-OXIDE FILM	1W 1.2	1W 2.4
7	R572	R CARBON FILM	1/6W 8.2K	1/6W 6.8K

RESISTOR

CARBON FILM	
CARBON COMP	(CC)
FUSIBLE	(F)
M-OXIDE FILM	
CEMENT	(C)
CHIP	

COIL

PEAKING	
CHOKE	(C)
BEAD	(B)

CAPACITOR

ELECTRO	
ELECTRO NONPOLAR	(NP)
TANTAL	
CERAMIC	
MYLAR	(M)
CHIP	

DIFFERENT PARTS FOR 1,2TUNER

NO	LOC	PART	DVT-14F6LA (2 TUNER)	DVT-14F6L (1 TUNER)
1	ANT01	MODULE RF	PH-RF-9701A	
2	C225	C ELECTRO	50V RSS 22uF	X
3	C226	C ELECTRO	25V RSS 47uF	X
4	C227	C ELECTRO	50V RSS 1uF	X
5	C229	C ELECTRO	25V RSS 47uF	X
6	C230	C ELECTRO	16V RSS 470uF	X
7	C231	C ELECTRO	50V RSS 4.7uF	X
8	C232	C ELECTRO	50V RSS 4.7uF	X
9	C233	C ELECTRO	25V RSS 100uF	X
10	C514	C CERA	X	50V 0.047uF
11	C556	C ELECTRO	25V RSS 47uF	X
12	C557	C ELECTRO	25V RSS 47uF	X
13	C724	C ELECTRO	25V RSS 220uF	X
14	CC108	C CHIP CERA	50V 1000PF	X
15	CC110	C CHIP CERA	50V 0.01uF	X
16	CC111	C CHIP CERA	50V 0.01uF	X
17	CC112	C CHIP CERA	50V 0.01uF	X
18	CC201	C CHIP CERA	50V 0.033uF	X
19	CC202	C CHIP CERA	50V 0.022uF	X
20	CC203	C CHIP CERA	50V CH 22PF	X
21	CC204	C CHIP CERA	50V CH 22PF	X
22	CC205	C CHIP CERA	50V CH 82PF	X
23	CC206	C CHIP CERA	50V 0.1uF	X
24	CC207	C CHIP CERA	50V 0.1uF	X
25	CC208	C CHIP CERA	50V 0.01uF	X
26	CC209	C CHIP CERA	25V 0.22uF	X
27	CC211	C CHIP CERA	50V CH 82PF	X
28	CC212	C CHIP CERA	50V 0.1uF	X
29	CC213	C CHIP CERA	50V 1000PF	X
30	CC214	C CHIP CERA	50V CH 39PF	X

DIFFERENT PARTS FOR 1,2TUNER

NO	LOC	PART	DVT-14F6LA (2 TUNER)	DVT-14F6L (1 TUNER)
31	CC215	C CHIP CERA	50V CH 22PF	X
32	CC217	C CHIP CERA	50V 1000PF	X
33	CC218	C CHIP CERA	50V 1000PF	X
34	CC220	C CHIP CERA	50V 470DPF	X
35	CC221	C CHIP CERA	50V 0.1uF	X
36	CC222	C CHIP CERA	50V 0.1uF	X
37	CC223	C CHIP CERA	50V 0.033uF	X
38	CC224	C CHIP CERA	50V 0.01uF	X
39	CC225	C CHIP CERA	50V 0.1uF	X
40	CC228	C CHIP TANTAL	16V 2.2uF	X
41	CC235	C CHIP CERA	50V CH 220PF	X
42	CC236	C CHIP CERA	50V CH 220PF	X
43	CC509	C CHIP CERA	50V 0.1uF	X
44	D101	DIODE	1S2186	X
45	D102	DIODE	1S2186	X
46	D103	DIODE	JUMP WIRE	X
47	D108	DIODE	BB909A	X
48	D109	DIODE	UZ-5.1BM	X
49	D110	DIODE	UZ-5.1BM	X
50	D111	DIODE	UZ-5.1BM	X
51	D113	DIODE	X	UZ-5.1BM
52	D707	DIODE	UZ-9.1BM	X
53	I201	IC	TDA9802	X
54	I504	IC	TC4053BP	X
55	IL02	IC	STV8225	X
56	J012	WIRE COPPER	JUMPER WIRE	X
57	J038	WIRE COPPER	JUMPER WIRE	X
58	J039	WIRE COPPER	JUMPER WIRE	X
59	J041	WIRE COPPER	JUMPER WIRE	X
60	J042	WIRE COPPER	JUMPER WIRE	X

DIFFERENT PARTS FOR 1,2TUNER

NO	LOC	PART	DVT-14F6LA (2 TUNER)	DVT-14F6L (1 TUNER)
61	J043	WIRE COPPER	JUMPER WIRE	X
62	J044	WIRE COPPER	JUMPER WIRE	X
63	J045	WIRE COPPER	JUMPER WIRE	X
64	J049	WIRE COPPER	JUMPER WIRE	X
65	J060	WIRE COPPER	JUMPER WIRE	X
66	J066	WIRE COPPER	JUMPER WIRE	X
67	J067	WIRE COPPER	JUMPER WIRE	X
68	J101	WIRE COPPER	JUMPER WIRE	X
69	J115	WIRE COPPER	JUMPER WIRE	X
70	J132	WIRE COPPER	JUMPER WIRE	X
71	J188	WIRE COPPER	JUMPER WIRE	X
72	J259	WIRE COPPER	X	JUMPER WIRE
73	J266	WIRE COPPER	X	JUMPER WIRE
74	J271	WIRE COPPER	JUMPER WIRE	X
75	J272	WIRE COPPER	JUMPER WIRE	X
76	J278	WIRE COPPER	JUMPER WIRE	X
77	L101	COIL CHOKE	TRF-1201B	X
78	L201	COIL PIF	TRF-7780A	X
79	L202	COIL PEAKING	15uH	X
80	L203	COIL PEAKING	22uH	X
81	QC101	TR CHIP	KTC3881	X
82	QC102	TR CHIP	2SA812	X
83	QC201	TR CHIP	KTC3881	X
84	QC202	TR CHIP	2SC1623	X
85	QC203	TR CHIP	2SC1623	X
86	QC204	TR CHIP	2SC1623	X
87	QC205	TR CHIP	2SC1623	X
88	QCL06	TR CHIP	2SC1623	X
89	R112	R CARBON FILM	1/6W 1.2K	X
90	R122	R CARBON FILM	1/6W 220	X

DIFFERENT PARTS FOR 1,2TUNER

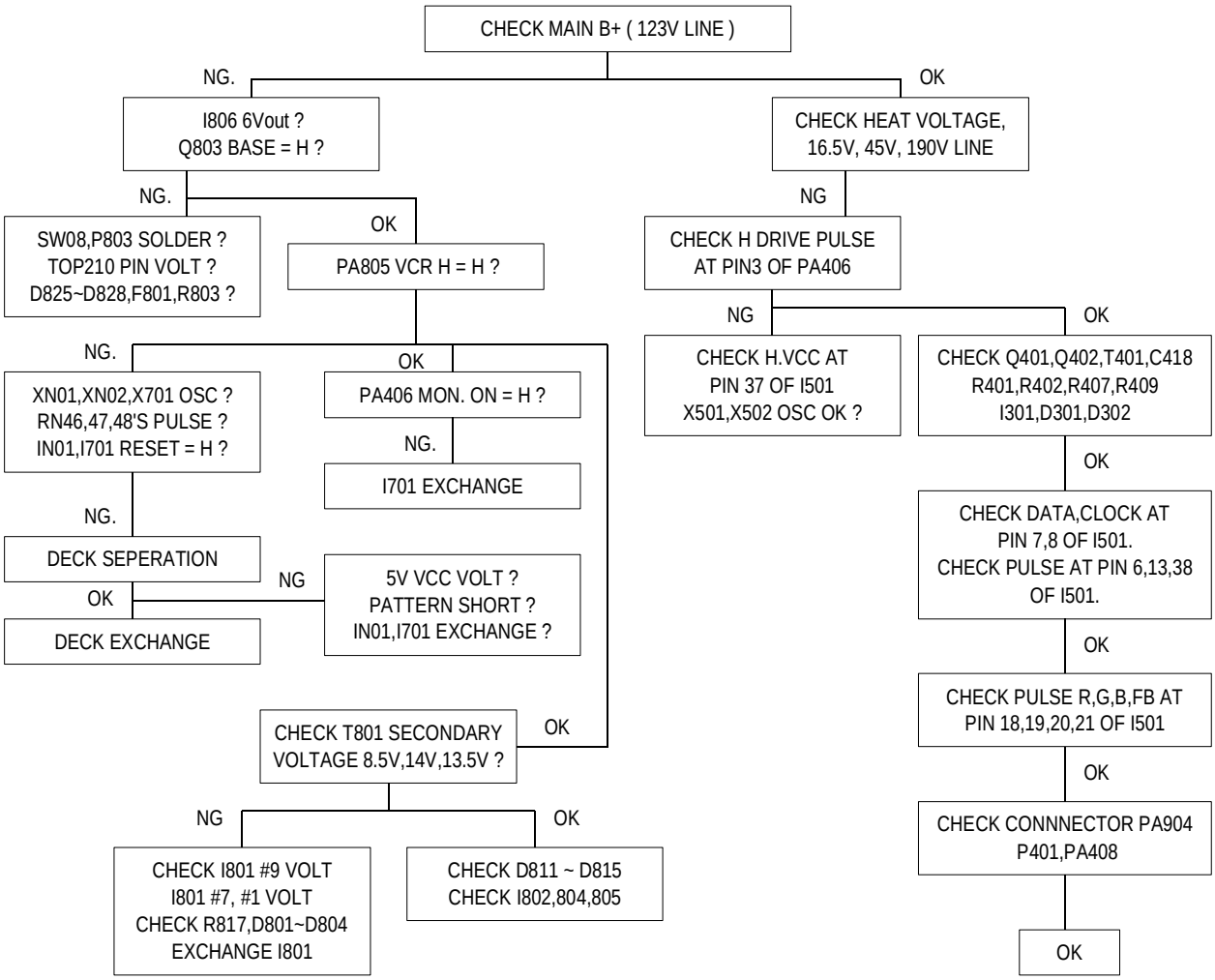
NO	LOC	PART	DVT-14F6LA (2 TUNER)	DVT-14F6L (1 TUNER)
91	R202	R SEMI FIXED	20KB	
92	R203	R CARBON FILM	1/6W 100K	X
93	R218	R CARBON FILM	1/6W 22K	X
94	R219	R CARBON FILM	1/6W 8.2K	X
95	R227	R CARBON FILM	1/6W 47	X
96	R240	R SEMI FIXED	10KB	X
97	R517	R CARBON FILM	1/6W 100	X
98	R738	R M-OXIDE FILM	2W 27	X
99	RC106	R CHIP	1/10W 47	X
100	RC107	R CHIP	1/10W 1.2K	X
101	RC108	R CHIP	1/10W 4.7K	X
102	RC109	R CHIP	1/10W 100	X
103	RC110	R CHIP	1/10W 1.2K	X
104	RC201	R CHIP	1/10W 1.8K	X
105	RC204	R CHIP	1/10W 3K	X
106	RC205	R CHIP	1/10W 27D	X
107	RC207	R CHIP	1/10W 22K	X
108	RC208	R CHIP	1/10W 22K	X
109	RC209	R CHIP	1/10W 100K	X
110	RC210	R CHIP	1/10W 15K	X
111	RC211	R CHIP	1/10W 2.2K	X
112	RC213	R CHIP	1/10W 10K	X
113	RC214	R CHIP	1/10W 10K	X
114	RC215	R CHIP	1/10W 10K	X
115	RC216	R CHIP	1/10W 68K	X
116	RC217	R CHIP	1/10W 100	X
117	RC221	R CHIP	1/10W 33K	X
118	RC224	R CHIP	1/10W 560	X
119	RC225	R CHIP	1/10W 10K	X
120	RC226	R CHIP	1/10W 7.5K	X

DIFFERENT PARTS FOR 1,2TUNER

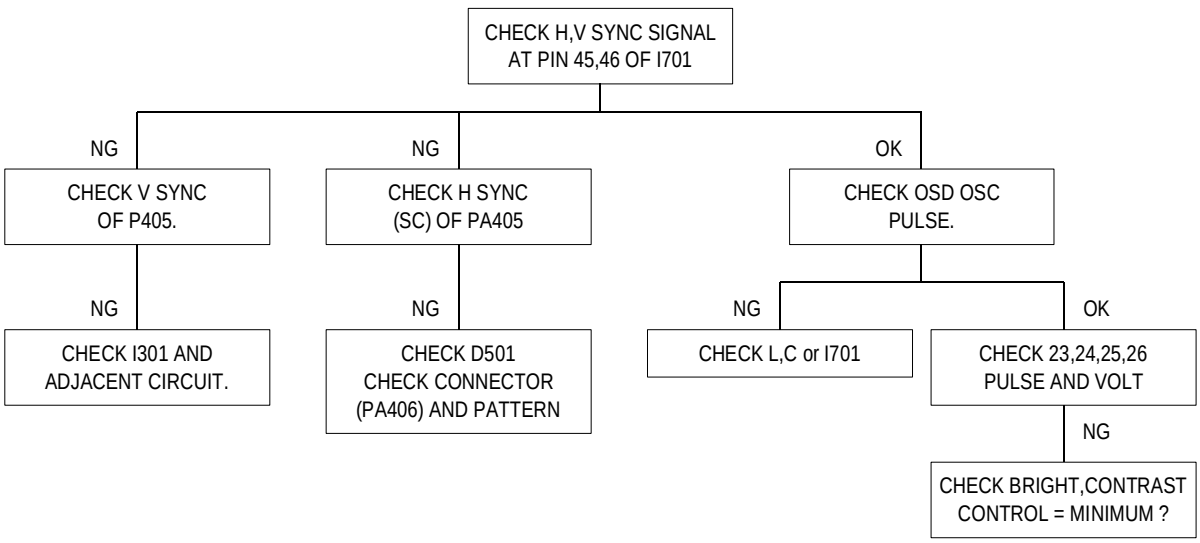
NO	LOC	PART	DVT-14F6LA (2 TUNER)	DVT-14F6L (1 TUNER)
121	RC228	R CHIP	1/10W 22K	X
122	RC229	R CHIP	1/10W 330	X
123	RC230	R CHIP	1/10W 1.5K	X
124	RC231	R CHIP	1/10W 1K	X
125	RC233	R CHIP	1/10W 1K	X
126	RC235	R CHIP	1/10W 560	X
127	RC236	R CHIP	1/10W 47D	X
128	RC237	R CHIP	1/10W 750	X
129	RC239	R CHIP	1/10W 2.4K	X
130	RC501	R CHIP	1/10W 33K	X
131	RC528	R CHIP	1/10W 1K	1/10W 470
132	RC5B2	R CHIP	1/10W 0	1/10W 470
133	RC718	R CHIP	1/10W 100	X
134	RC719	R CHIP	1/10W 100	X
135	RC745	R CHIP	X	1/10W 10K
136	RCJ13	R CHIP	1/10W 0	X
137	RCJ28	R CHIP	1/10W 0	X
138	RCJ34	R CHIP	X	1/10W 0
139	SF03	FILTER SAW	G1966M	X
140	SF04	FILTER SAW	L9461M	X
141	U102	TUNER VARATOR	TELE9084A	X
142	U102A	JACK PHONE PLUG	250mm	X
143	Z204	FILTER CERA	SFSH5.5MCB	X
144	Z205	FILTER CERA	MKT40MA100P	X
145	Z206	FILTER CERA	TPS5.5MB	X
146				
147				
148				
149				
150				

10. TROUBLE SHOOTING CHARTS

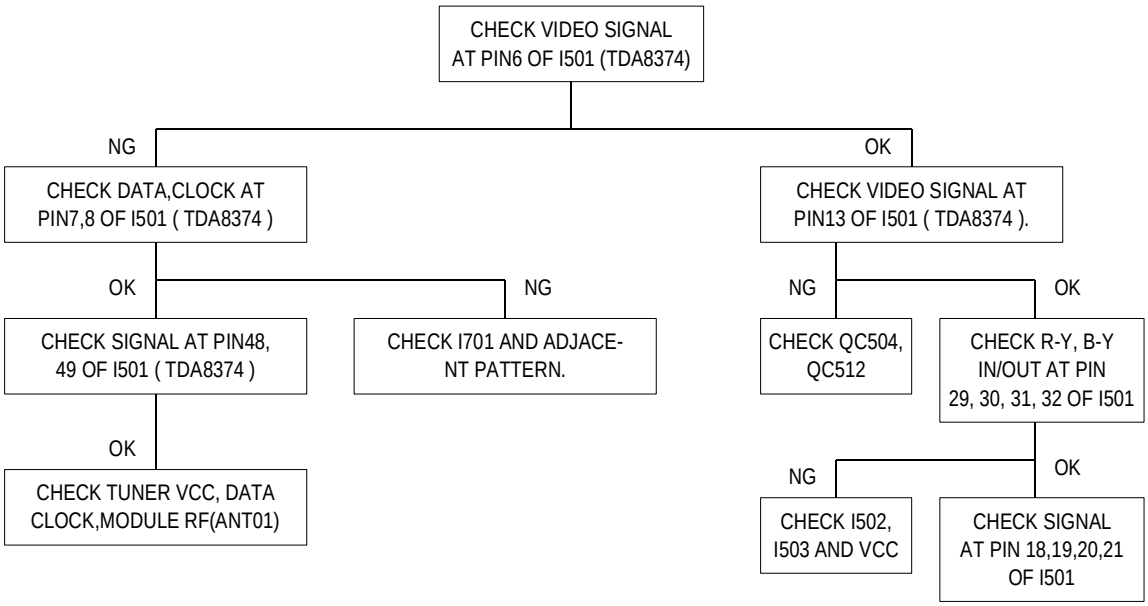
10-1. NO RASTER



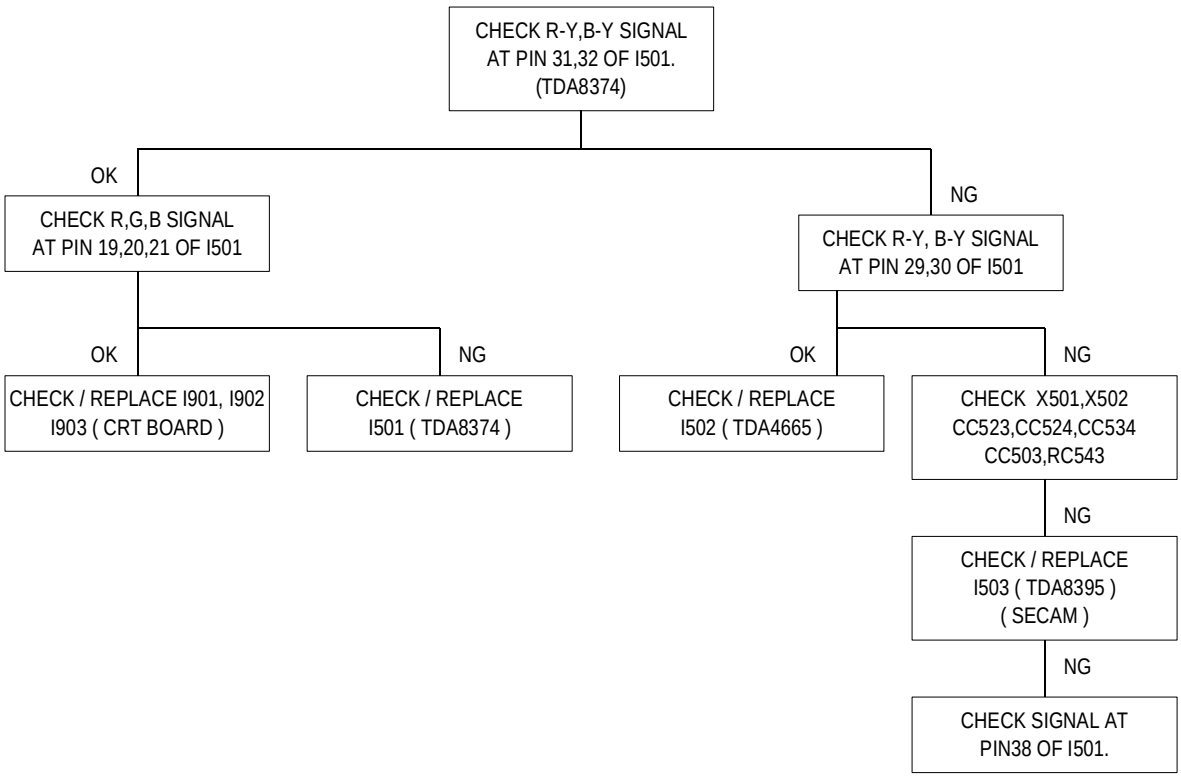
10-2. NO OSD DISPLAY



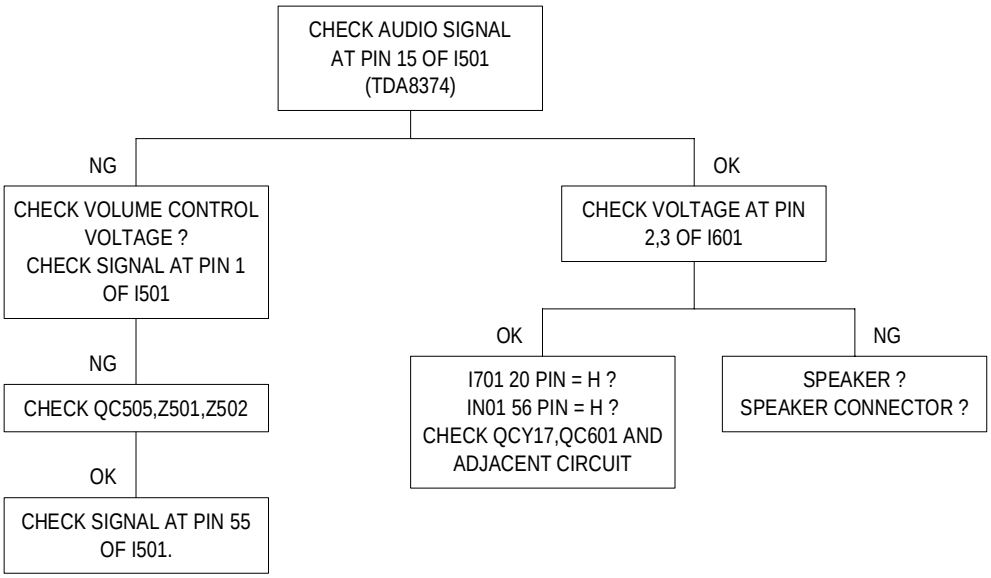
10-3. NO PICTURE(RASTER OK)


CHECK VIDEO SIGNAL AT PIN6 OF I501 (TDA8374)
NG
OK
CHECK DATA,CLOCK AT PIN7,8 OF I501 (TDA8374)
CHECK VIDEO SIGNAL AT PIN13 OF I501 (TDA8374).
OK
NG
NG
OK
CHECK SIGNAL AT PIN48, 49 OF I501 (TDA8374)
CHECK I701 AND ADJACE-NT PATTERN.
CHECK QC504, QC512
CHECK R-Y, B-Y IN/OUT AT PIN 29, 30, 31, 32 OF I501
OK
NG
OK
CHECK TUNER VCC, DATA CLOCK,MODULE RF(ANT01)
CHECK I502, I503 AND VCC
CHECK SIGNAL AT PIN 18,19,20,21 OF I501

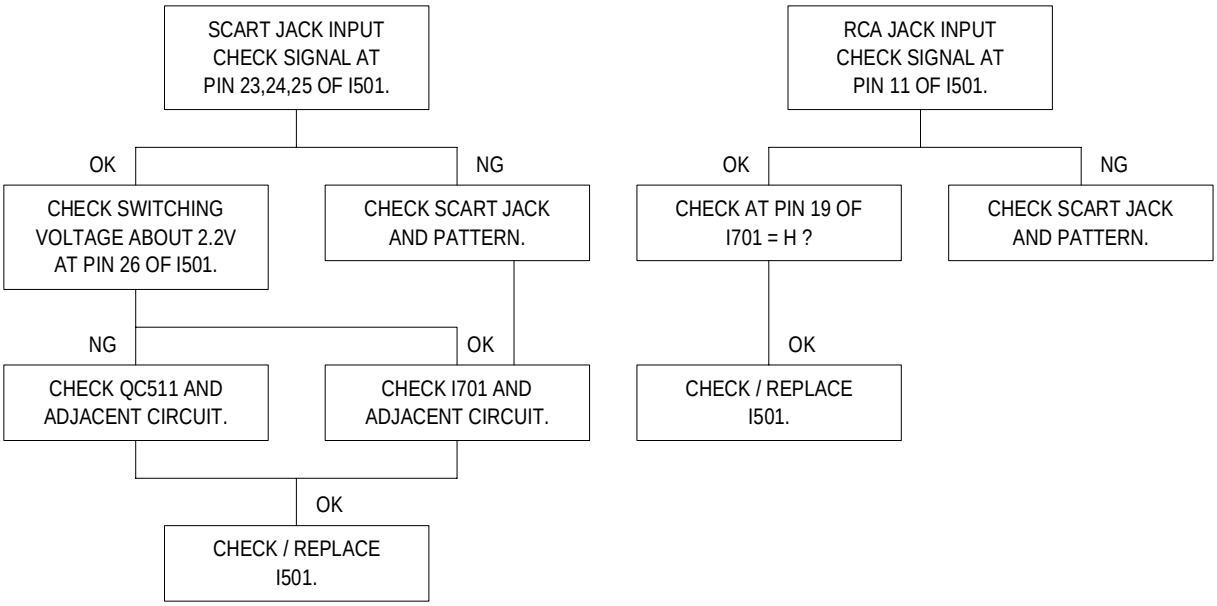
10-4. NO COLOUR


CHECK R-Y,B-Y SIGNAL AT PIN 31,32 OF I501. (TDA8374)
OK
NG
CHECK R,G,B SIGNAL AT PIN 19,20,21 OF I501
CHECK R-Y, B-Y SIGNAL AT PIN 29,30 OF I501
OK
NG
OK
NG
CHECK / REPLACE I901, I902 I903 (CRT BOARD)
CHECK / REPLACE I501 (TDA8374)
CHECK / REPLACE I502 (TDA4665)
CHECK X501,X502 CC523,CC524,CC534 CC503,RC543
NG
CHECK / REPLACE I503 (TDA8395) (SECAM)
NG
CHECK SIGNAL AT PIN38 OF I501.

10-5. NO SOUND

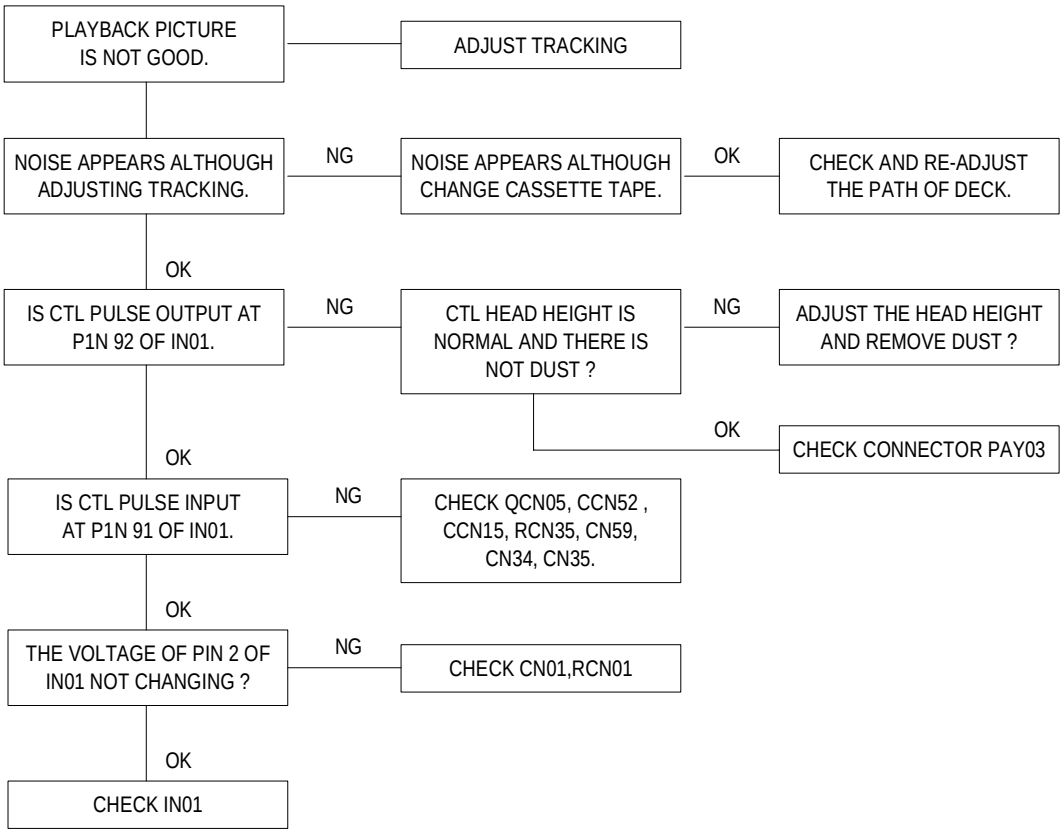


10-6. NO EXTERNAL AV

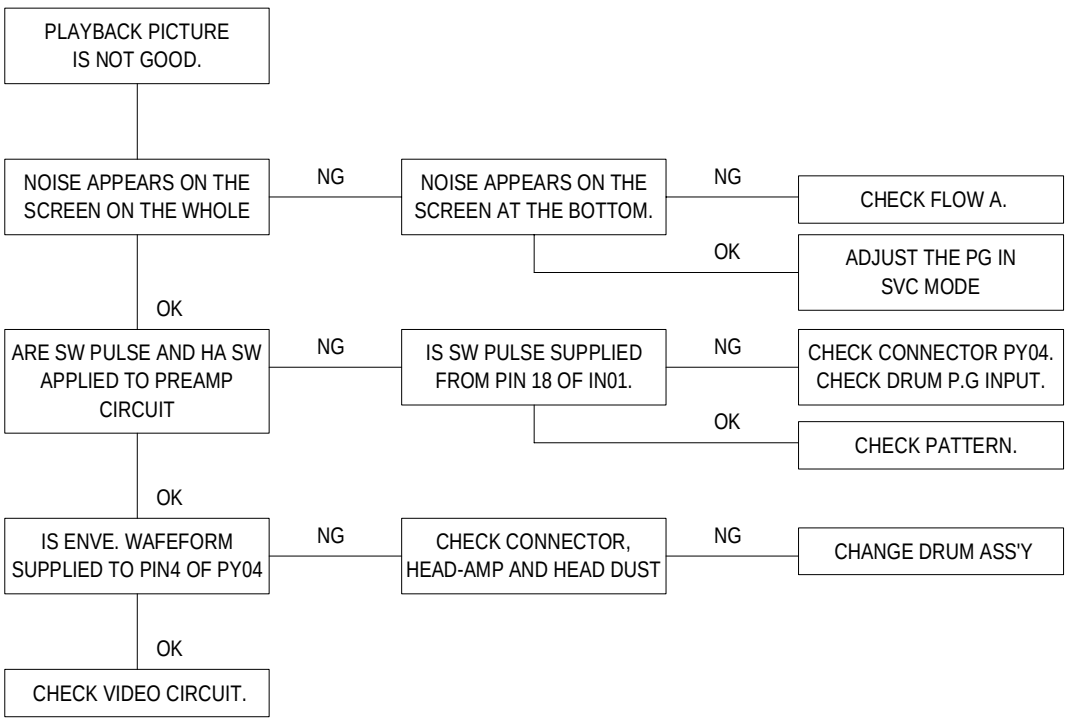


10-7. SERVO-SYSCON CIRCUIT

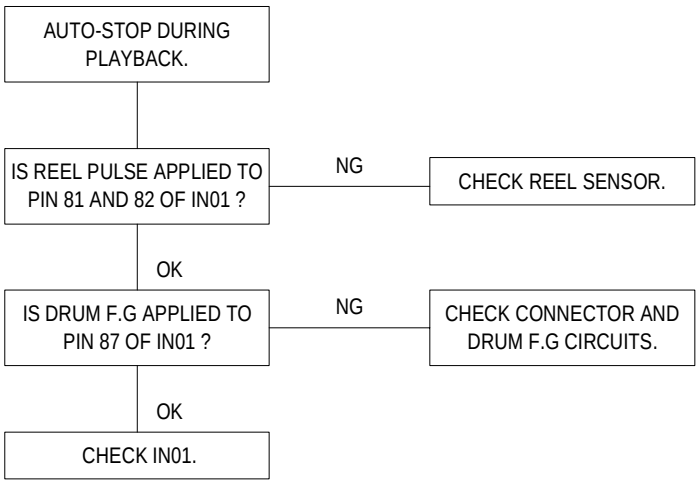
A.


PLAYBACK PICTURE IS NOT GOOD.
ADJUST TRACKING
NOISE APPEARS ALTHOUGH ADJUSTING TRACKING.
NG
NOISE APPEARS ALTHOUGH CHANGE CASSETTE TAPE.
OK
CHECK AND RE-ADJUST THE PATH OF DECK.
OK
IS CTL PULSE OUTPUT AT P1N 92 OF IN01.
NG
CTL HEAD HEIGHT IS NORMAL AND THERE IS NOT DUST ?
NG
ADJUST THE HEAD HEIGHT AND REMOVE DUST ?
OK
CHECK CONNECTOR PAY03
OK
IS CTL PULSE INPUT AT P1N 91 OF IN01.
NG
CHECK QCN05, CCN52 , CCN15, RCN35, CN59, CN34, CN35.
OK
THE VOLTAGE OF PIN 2 OF IN01 NOT CHANGING ?
NG
CHECK CN01,RCN01
OK
CHECK IN01

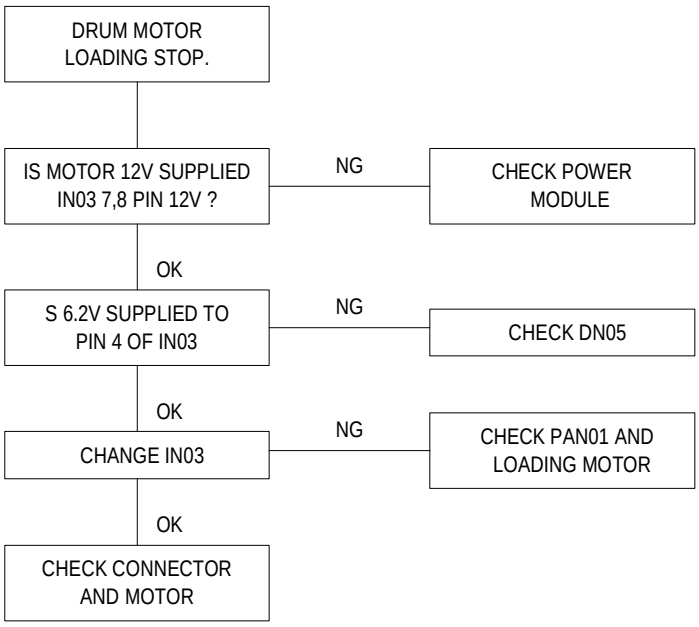
B.



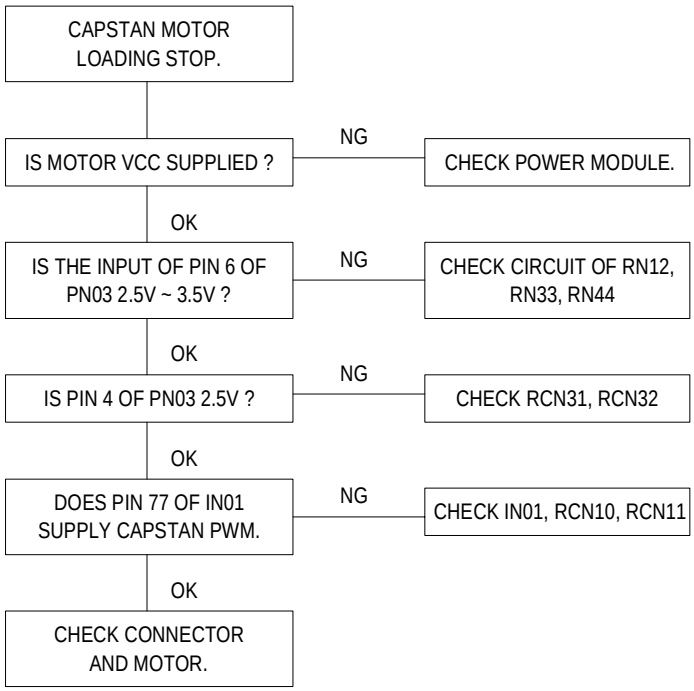
C.


AUTO-STOP DURING PLAYBACK.
IS REEL PULSE APPLIED TO PIN 81 AND 82 OF IN01 ?
NG
CHECK REEL SENSOR.
OK
IS DRUM F.G APPLIED TO PIN 87 OF IN01 ?
NG
CHECK CONNECTOR AND DRUM F.G CIRCUITS.
OK
CHECK IN01.

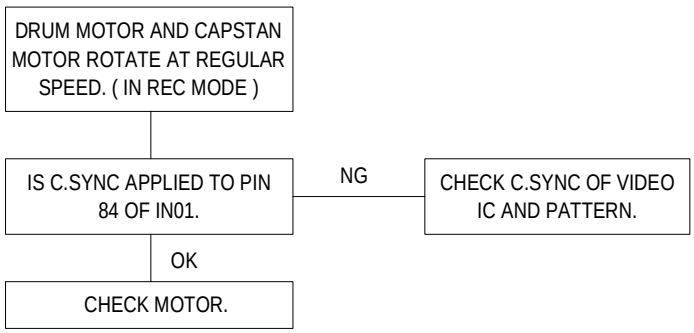
D.


DRUM MOTOR LOADING STOP.
IS MOTOR 12V SUPPLIED IN03 7,8 PIN 12V ?
NG
CHECK POWER MODULE
OK
S 6.2V SUPPLIED TO PIN 4 OF IN03
NG
CHECK DN05
OK
CHANGE IN03
NG
CHECK PAN01 AND LOADING MOTOR
OK
CHECK CONNECTOR AND MOTOR

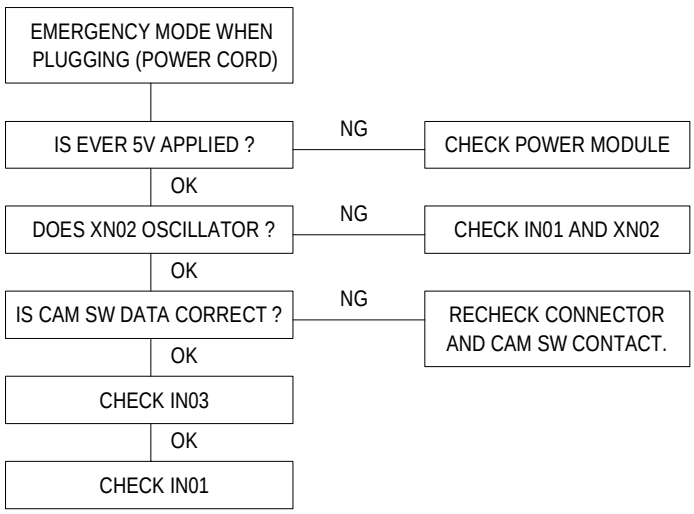
E.


CAPSTAN MOTOR LOADING STOP.
IS MOTOR VCC SUPPLIED ?
NG
CHECK POWER MODULE.
OK
IS THE INPUT OF PIN 6 OF PN03 2.5V ~ 3.5V ?
NG
CHECK CIRCUIT OF RN12, RN33, RN44
OK
IS PIN 4 OF PN03 2.5V ?
NG
CHECK RCN31, RCN32
OK
DOES PIN 77 OF IN01 SUPPLY CAPSTAN PWM.
NG
CHECK IN01, RCN10, RCN11
OK
CHECK CONNECTOR AND MOTOR.

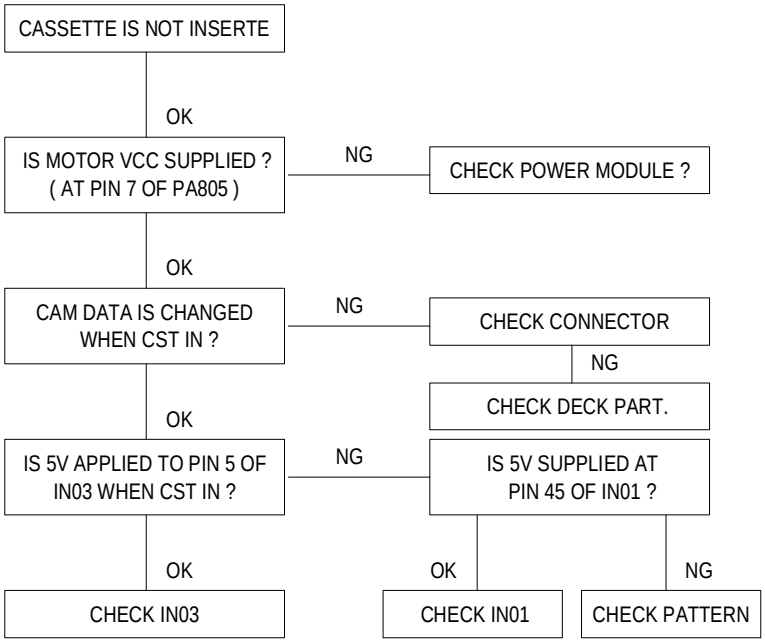
F.


DRUM MOTOR AND CAPSTAN MOTOR ROTATE AT REGULAR SPEED. (IN REC MODE)
IS C.SYNC APPLIED TO PIN 84 OF IN01.
NG
CHECK C.SYNC OF VIDEO IC AND PATTERN.
OK
CHECK MOTOR.

G.

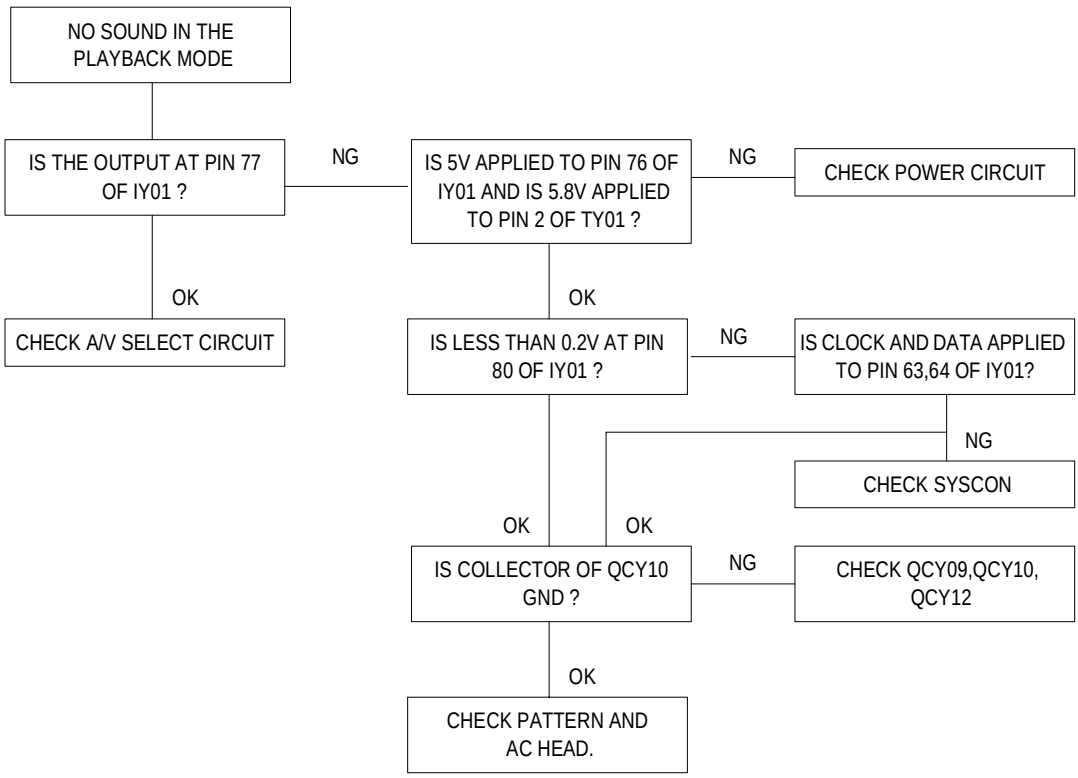

EMERGENCY MODE WHEN PLUGGING (POWER CORD)
IS EVER 5V APPLIED ?
NG
CHECK POWER MODULE
OK
DOES XN02 OSCILLATOR ?
NG
CHECK IN01 AND XN02
OK
IS CAM SW DATA CORRECT ?
NG
RECHECK CONNECTOR AND CAM SW CONTACT.
OK
CHECK IN03
OK
CHECK IN01

H.

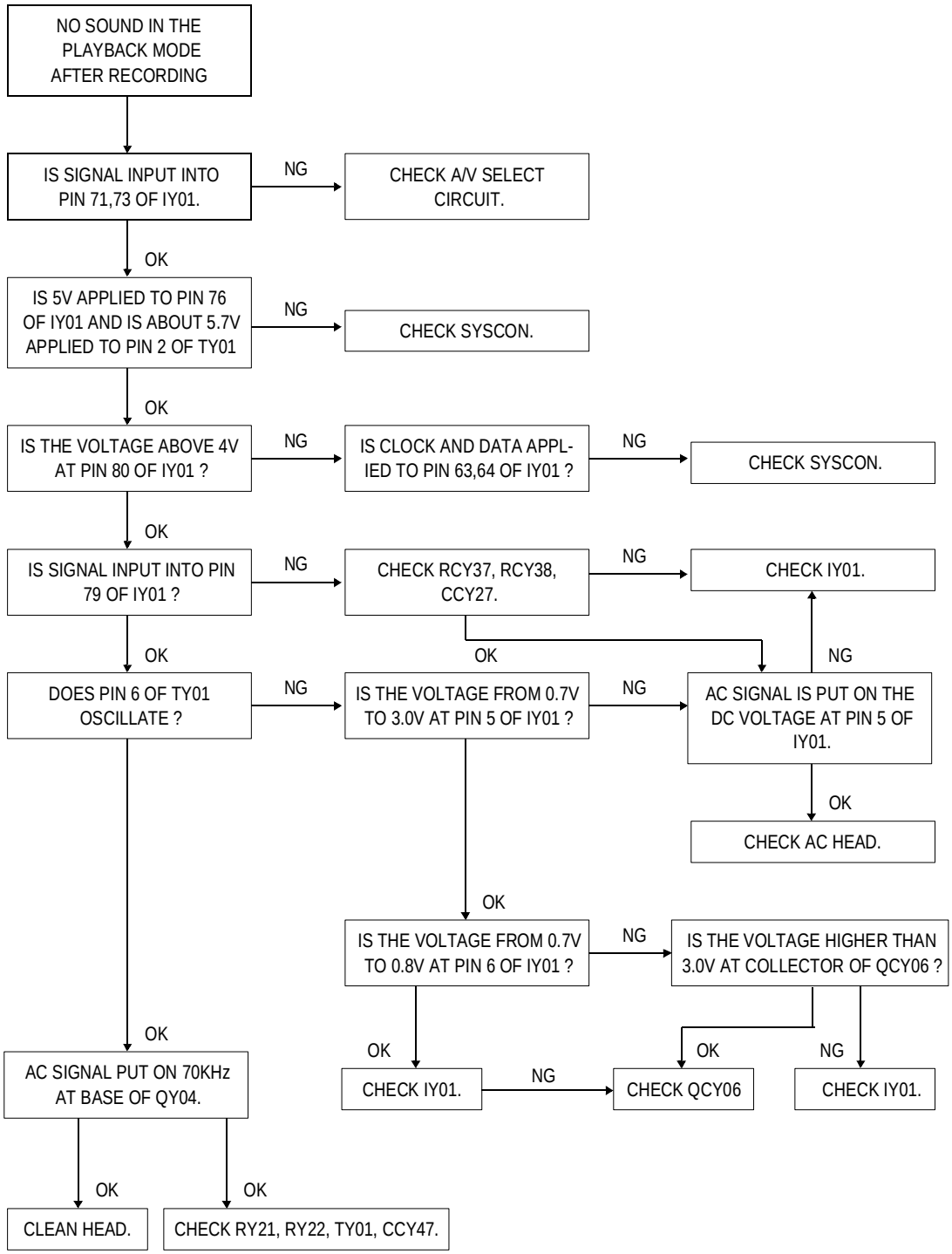


10-8. VCR AUDIO CIRCUIT(NORMAL)

A. TROUBLE SHOOTING OF PB MODE

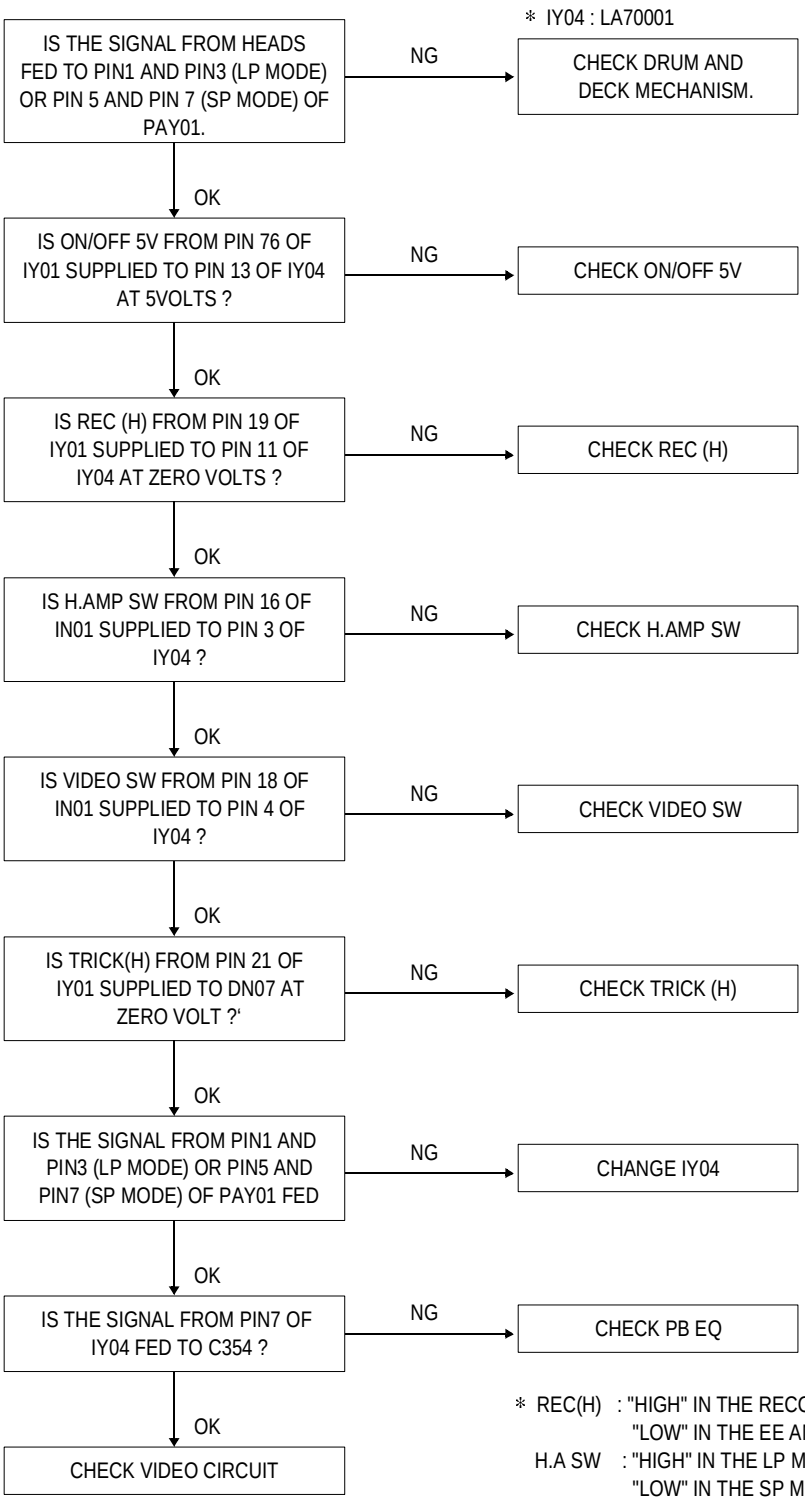

NO SOUND IN THE PLAYBACK MODE
IS THE OUTPUT AT PIN 77 OF IY01 ?
NG
IS 5V APPLIED TO PIN 76 OF IY01 AND IS 5.8V APPLIED TO PIN 2 OF TY01 ?
NG
CHECK POWER CIRCUIT
OK
CHECK A/V SELECT CIRCUIT
OK
IS LESS THAN 0.2V AT PIN 80 OF IY01 ?
NG
IS CLOCK AND DATA APPLIED TO PIN 63,64 OF IY01?
NG
CHECK SYSCON
OK
OK
IS COLLECTOR OF QCY10 GND ?
NG
CHECK QCY09,QCY10, QCY12
OK
CHECK PATTERN AND AC HEAD.

B. TROUBLE SHOOTING OF REC MODE.



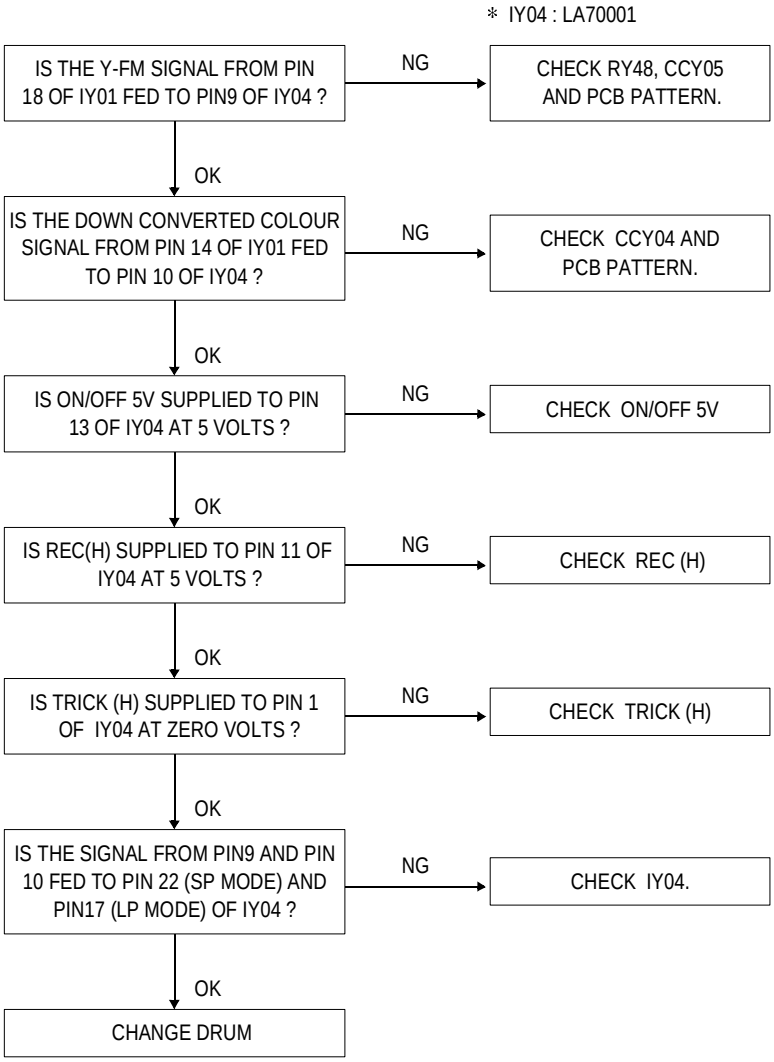
10-9. VCR VIDEO CIRCUIT

A. TROUBLE SHOOTING OF PREAMP IN THE PLAYBACK MODE.

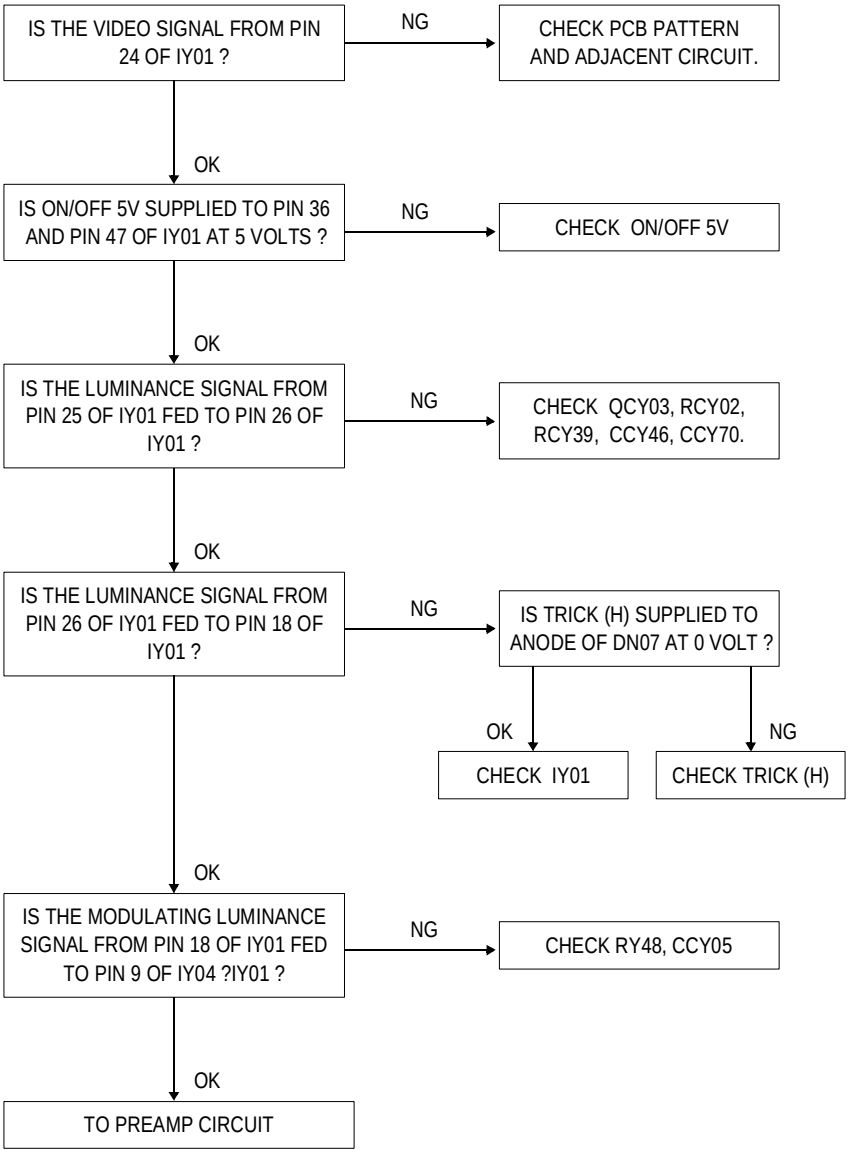

* IY04 : LA70001
IS THE SIGNAL FROM HEADS FED TO PIN1 AND PIN3 (LP MODE) OR PIN 5 AND PIN 7 (SP MODE) OF PAY01.
NG
CHECK DRUM AND DECK MECHANISM.
OK
IS ON/OFF 5V FROM PIN 76 OF IY01 SUPPLIED TO PIN 13 OF IY04 AT 5VOLTS ?
NG
CHECK ON/OFF 5V
OK
IS REC (H) FROM PIN 19 OF IY01 SUPPLIED TO PIN 11 OF IY04 AT ZERO VOLTS ?
NG
CHECK REC (H)
OK
IS H.AMP SW FROM PIN 16 OF IN01 SUPPLIED TO PIN 3 OF IY04 ?
NG
CHECK H.AMP SW
OK
IS VIDEO SW FROM PIN 18 OF IN01 SUPPLIED TO PIN 4 OF IY04 ?
NG
CHECK VIDEO SW
OK
IS TRICK(H) FROM PIN 21 OF IY01 SUPPLIED TO DN07 AT ZERO VOLT ?'
NG
CHECK TRICK (H)
OK
IS THE SIGNAL FROM PIN1 AND PIN3 (LP MODE) OR PIN5 AND PIN7 (SP MODE) OF PAY01 FED
NG
CHANGE IY04
OK
IS THE SIGNAL FROM PIN7 OF IY04 FED TO C354 ?
NG
CHECK PB EQ
OK
CHECK VIDEO CIRCUIT

* REC(H) : "HIGH" IN THE RECORD MODE
"LOW" IN THE EE AND PB MODE
H.A SW : "HIGH" IN THE LP MODE
"LOW" IN THE SP MODE
TRICK(H) : "HIGH" IN THE TRICK PLAY

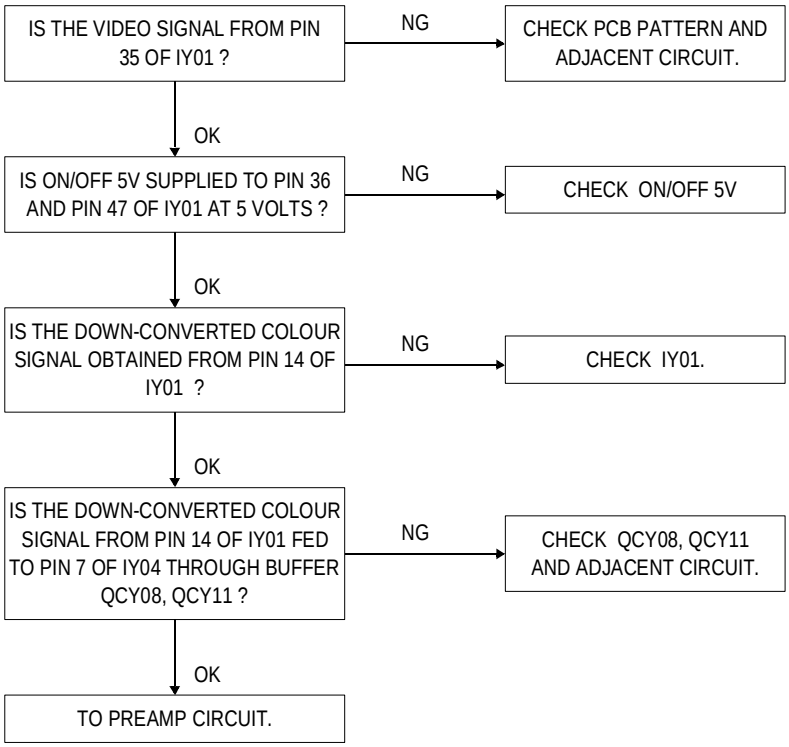
B. TROUBLE SHOOTING OF PREAMP IN THE RECORD MODE.


* IY04 : LA70001
IS THE Y-FM SIGNAL FROM PIN 18 OF IY01 FED TO PIN9 OF IY04 ?
NG
CHECK RY48, CCY05 AND PCB PATTERN.
OK
IS THE DOWN CONVERTED COLOUR SIGNAL FROM PIN 14 OF IY01 FED TO PIN 10 OF IY04 ?
NG
CHECK CCY04 AND PCB PATTERN.
OK
IS ON/OFF 5V SUPPLIED TO PIN 13 OF IY04 AT 5 VOLTS ?
NG
CHECK ON/OFF 5V
OK
IS REC(H) SUPPLIED TO PIN 11 OF IY04 AT 5 VOLTS ?
NG
CHECK REC (H)
OK
IS TRICK (H) SUPPLIED TO PIN 1 OF IY04 AT ZERO VOLTS ?
NG
CHECK TRICK (H)
OK
IS THE SIGNAL FROM PIN9 AND PIN 10 FED TO PIN 22 (SP MODE) AND PIN17 (LP MODE) OF IY04 ?
NG
CHECK IY04.
OK
CHANGE DRUM

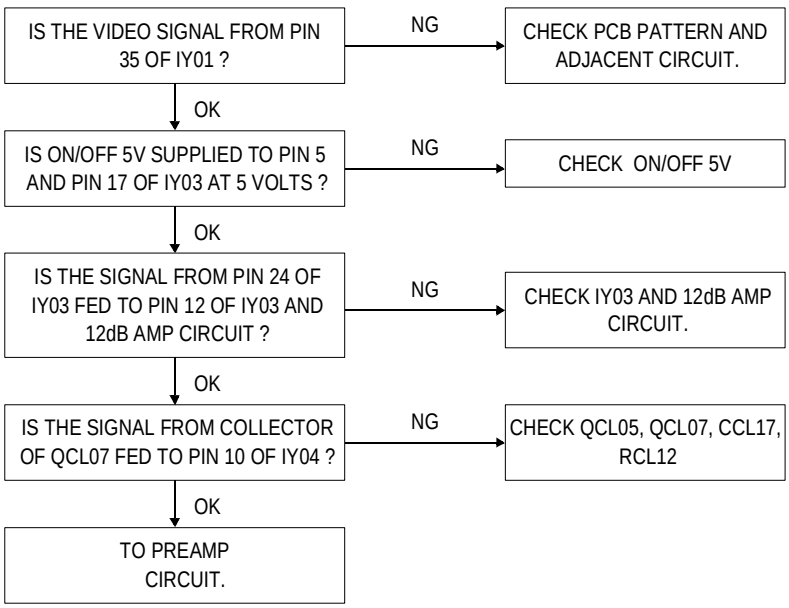
C. TROUBLE SHOOTING OF LUMINANCE SIGNAL IN THE RECORD MODE.


IS THE VIDEO SIGNAL FROM PIN 24 OF IY01 ?
NG
CHECK PCB PATTERN AND ADJACENT CIRCUIT.
OK
IS ON/OFF 5V SUPPLIED TO PIN 36 AND PIN 47 OF IY01 AT 5 VOLTS ?
NG
CHECK ON/OFF 5V
OK
IS THE LUMINANCE SIGNAL FROM PIN 25 OF IY01 FED TO PIN 26 OF IY01 ?
NG
CHECK QCY03, RCY02, RCY39, CCY46, CCY70.
OK
IS THE LUMINANCE SIGNAL FROM PIN 26 OF IY01 FED TO PIN 18 OF IY01 ?
NG
IS TRICK (H) SUPPLIED TO ANODE OF DN07 AT 0 VOLT ?
OK
NG
CHECK IY01
CHECK TRICK (H)
OK
IS THE MODULATING LUMINANCE SIGNAL FROM PIN 18 OF IY01 FED TO PIN 9 OF IY04 ?IY01 ?
NG
CHECK RY48, CCY05
OK
TO PREAMP CIRCUIT

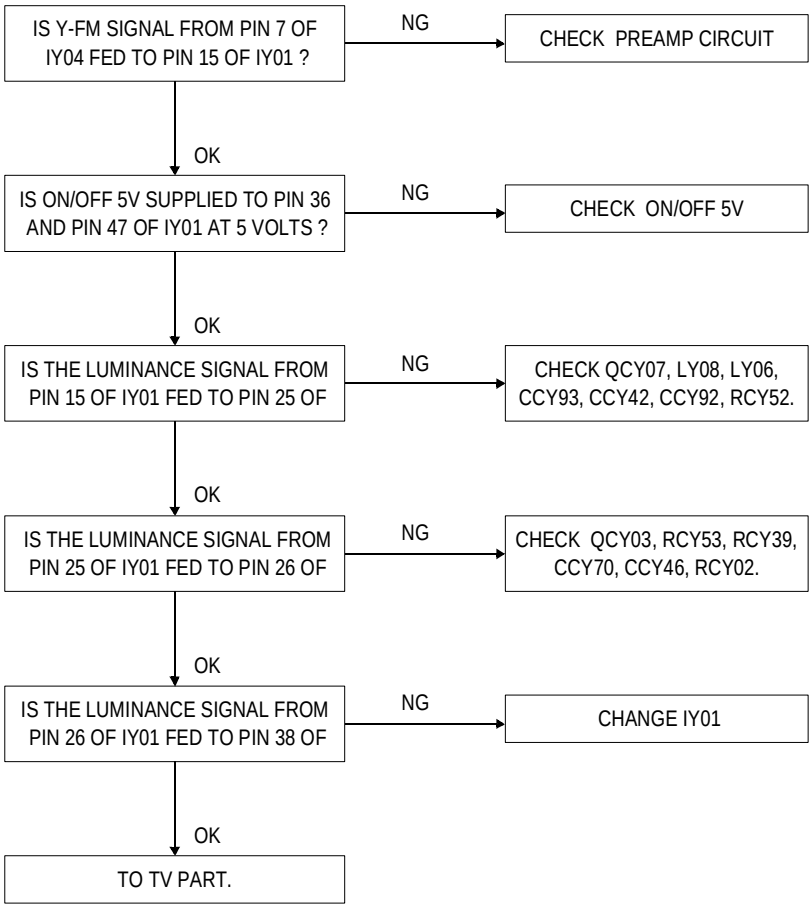
D.TROUBLE SHOOTING OF PAL COLOUR IN THE RECORD MODE.


IS THE VIDEO SIGNAL FROM PIN 35 OF IY01 ?
NG
CHECK PCB PATTERN AND ADJACENT CIRCUIT.
OK
IS ON/OFF 5V SUPPLIED TO PIN 36 AND PIN 47 OF IY01 AT 5 VOLTS ?
NG
CHECK ON/OFF 5V
OK
IS THE DOWN-CONVERTED COLOUR SIGNAL OBTAINED FROM PIN 14 OF IY01 ?
NG
CHECK IY01.
OK
IS THE DOWN-CONVERTED COLOUR SIGNAL FROM PIN 14 OF IY01 FED TO PIN 7 OF IY04 THROUGH BUFFER QCY08, QCY11 ?
NG
CHECK QCY08, QCY11 AND ADJACENT CIRCUIT.
OK
TO PREAMP CIRCUIT.

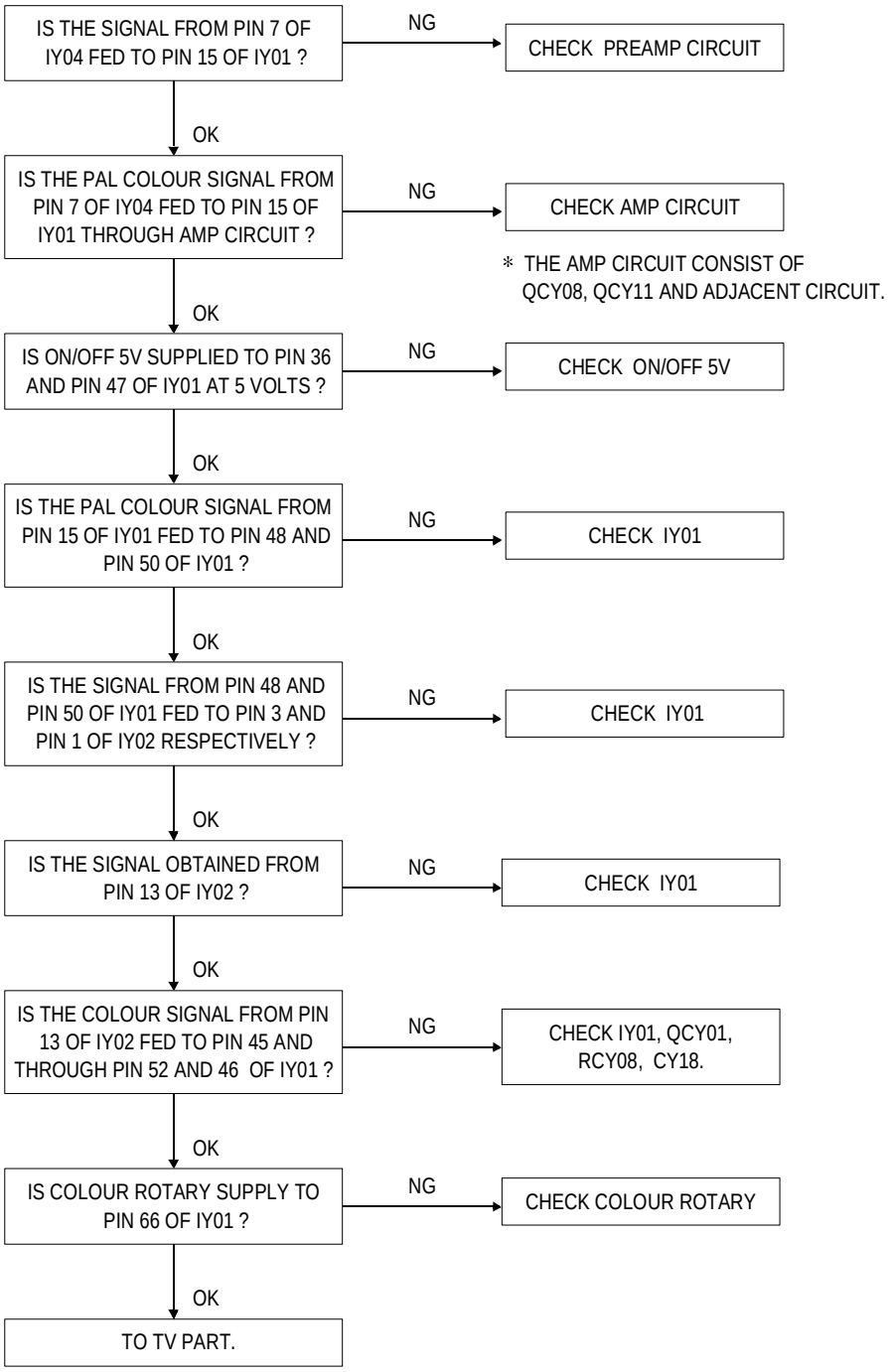
E.TROUBLE SHOOTING OF SECAM COLOUR IN THE RECORD MODE.


IS THE VIDEO SIGNAL FROM PIN 35 OF IY01 ?
NG
CHECK PCB PATTERN AND ADJACENT CIRCUIT.
OK
IS ON/OFF 5V SUPPLIED TO PIN 5 AND PIN 17 OF IY03 AT 5 VOLTS ?
NG
CHECK ON/OFF 5V
OK
IS THE SIGNAL FROM PIN 24 OF IY03 FED TO PIN 12 OF IY03 AND 12dB AMP CIRCUIT ?
NG
CHECK IY03 AND 12dB AMP CIRCUIT.
OK
IS THE SIGNAL FROM COLLECTOR OF QCL07 FED TO PIN 10 OF IY04 ?
NG
CHECK QCL05, QCL07, CCL17, RCL12
OK
TO PREAMP CIRCUIT.

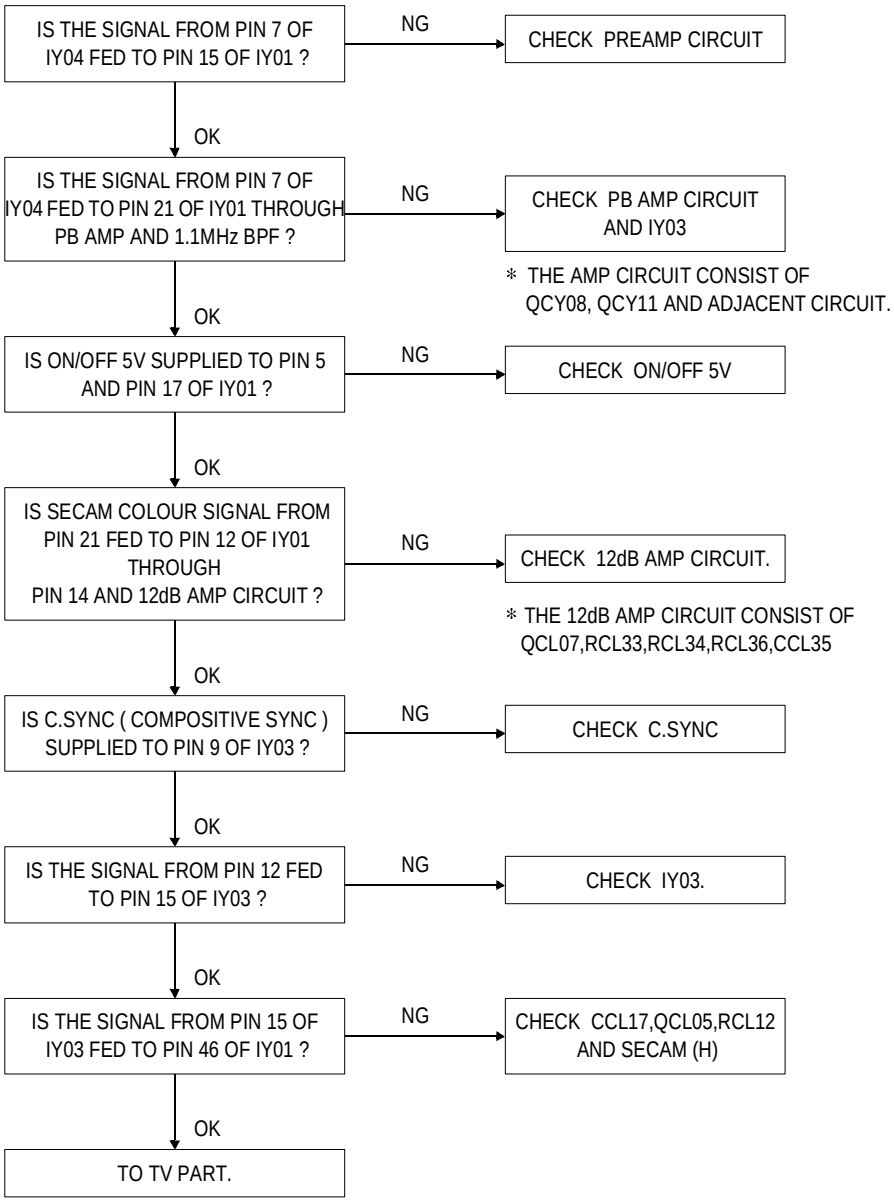
F. TROUBLE SHOOTING OF LUMINANCE IN THE PLAYBACK MODE.


IS Y-FM SIGNAL FROM PIN 7 OF IY04 FED TO PIN 15 OF IY01 ?
NG
CHECK PREAMP CIRCUIT
OK
IS ON/OFF 5V SUPPLIED TO PIN 36 AND PIN 47 OF IY01 AT 5 VOLTS ?
NG
CHECK ON/OFF 5V
OK
IS THE LUMINANCE SIGNAL FROM PIN 15 OF IY01 FED TO PIN 25 OF
NG
CHECK QCY07, LY08, LY06, CCY93, CCY42, CCY92, RCY52.
OK
IS THE LUMINANCE SIGNAL FROM PIN 25 OF IY01 FED TO PIN 26 OF
NG
CHECK QCY03, RCY53, RCY39, CCY70, CCY46, RCY02.
OK
IS THE LUMINANCE SIGNAL FROM PIN 26 OF IY01 FED TO PIN 38 OF
NG
CHANGE IY01
OK
TO TV PART.

G. TROUBLE SHOOTING OF PAL COLOUR IN THE PLAYBACK MODE.


IS THE SIGNAL FROM PIN 7 OF IY04 FED TO PIN 15 OF IY01 ?
NG
CHECK PREAMP CIRCUIT
OK
IS THE PAL COLOUR SIGNAL FROM PIN 7 OF IY04 FED TO PIN 15 OF IY01 THROUGH AMP CIRCUIT ?
NG
CHECK AMP CIRCUIT
* THE AMP CIRCUIT CONSIST OF QCY08, QCY11 AND ADJACENT CIRCUIT.
OK
IS ON/OFF 5V SUPPLIED TO PIN 36 AND PIN 47 OF IY01 AT 5 VOLTS ?
NG
CHECK ON/OFF 5V
OK
IS THE PAL COLOUR SIGNAL FROM PIN 15 OF IY01 FED TO PIN 48 AND PIN 50 OF IY01 ?
NG
CHECK IY01
OK
IS THE SIGNAL FROM PIN 48 AND PIN 50 OF IY01 FED TO PIN 3 AND PIN 1 OF IY02 RESPECTIVELY ?
NG
CHECK IY01
OK
IS THE SIGNAL OBTAINED FROM PIN 13 OF IY02 ?
NG
CHECK IY01
OK
IS THE COLOUR SIGNAL FROM PIN 13 OF IY02 FED TO PIN 45 AND THROUGH PIN 52 AND 46 OF IY01 ?
NG
CHECK IY01, QCY01, RCY08, CY18.
OK
IS COLOUR ROTARY SUPPLY TO PIN 66 OF IY01 ?
NG
CHECK COLOUR ROTARY
OK
TO TV PART.

H. TROUBLE SHOOTING OF SECAM COLOUR IN THE PLAYBACK MODE.


IS THE SIGNAL FROM PIN 7 OF IY04 FED TO PIN 15 OF IY01 ?
NG
CHECK PREAMP CIRCUIT
OK
IS THE SIGNAL FROM PIN 7 OF IY04 FED TO PIN 21 OF IY01 THROUGH PB AMP AND 1.1MHz BPF ?
NG
CHECK PB AMP CIRCUIT AND IY03
* THE AMP CIRCUIT CONSIST OF QCY08, QCY11 AND ADJACENT CIRCUIT.
OK
IS ON/OFF 5V SUPPLIED TO PIN 5 AND PIN 17 OF IY01 ?
NG
CHECK ON/OFF 5V
OK
IS SECAM COLOUR SIGNAL FROM PIN 21 FED TO PIN 12 OF IY01 THROUGH PIN 14 AND 12dB AMP CIRCUIT ?
NG
CHECK 12dB AMP CIRCUIT.
* THE 12dB AMP CIRCUIT CONSIST OF QCL07,RCL33,RCL34,RCL36,CCL35
OK
IS C.SYNC (COMPOSITIVE SYNC) SUPPLIED TO PIN 9 OF IY03 ?
NG
CHECK C.SYNC
OK
IS THE SIGNAL FROM PIN 12 FED TO PIN 15 OF IY03 ?
NG
CHECK IY03.
OK
IS THE SIGNAL FROM PIN 15 OF IY03 FED TO PIN 46 OF IY01 ?
NG
CHECK CCL17,QCL05,RCL12 AND SECAM (H)
OK
TO TV PART.

11. ELECTRICAL PARTS LIST

WARNING	COMPONENTS MARKED WITH THIS SYMBOL MUST ONLY BE REPLACED BY A COMPONENT HAVING IDENTICAL PHYSICAL CHARACTERISTICS.

LOC	PART CODE	PART NAME	PART TYPE	REMARK
ZZ110	PTACPWA531	ACCESSORY AS	DVT-14F6LA	
M821	4858213800	BAG INSTRUCTION	L.D.P.E T0.05X250X400	
ZZ120	PTBCSHA570	COVER BACK AS	DVT-14F6PA	
M211	4852149321	COVER BACK	HIPS BK	
M541	4855415800	SPEC PLATE	150ART P/E FILM (C/TV)	
M781	4857817610	CLOTH BLACK	FELT T0.7 L=300	
M782	4857817611	CLOTH BLACK	FELT T0.7 L=200	
ZZ130	PTPKCPA531	PACKING AS	DVT-14F6LA	
M641	6520010100	STAPLE PIN	18M/M J D O	
M801	4858035800	BOX CARTON	SW-3	
M811	4858182200	PAD	EPS 14F6	
M822	4858215700	BAG PE	1000X950	
ZZ131	48519A4610	CRT GROUND AS	1401H-1015-1P	
L901	58G0000084	COIL DEGAUSSING	DC-1450	⚠
ZZ140	PTCACAA531	CABINET AS	DVT-14F6LA	
M191	4851927300	DECO SENSOR AS	5526100+7817901	
M191A	7128301011	SCREW TAPPING	T2S WAS 3X10 MFZN	
M192	4851926400	DOOR F/L AS	2817701+7823301	
M192A	4856719800	SPRING	SWPB 0.35	
M211A	7122401612	SCREW TAPPING	T2S TRS 4X16 MFZN BK	
M211C	97P4602700	CLAMP CORD	NYLON 66 BLK 5280N	
M481	4854845801	BUTTON POWER	ABS BK	
M481A	4856715600	SPRING	SWPA	
M491	4854930001	BUTTON	ABS BK	
M491A	7128301011	SCREW TAPPING	T2S WAS 3X10 MFZN	
M561	4855613600	MARK BRAND	COPPER T0.4	
M601A	4856013300	SCREW CRT FIXING AS	30X80 BK	
M601B	4856013301	SCREW CRT FIXING AS	30X140 YL	
M622	4856215402	WASHER RUBBER	CR	
V901	PTRTPWA531	CRT AS	DVT-14F6LA	
V01	58D1000046	COIL DY	ODY-M1401	
V02	48A96R004-	RUBBER WEDGE	HMR 28 SR (|0X54)	
V03	4850PM001-	MAGNET CP	NY-225 (MINI NECK)	
V04	2TG00020--	TAPE GLASS	20MMX30M	
V05	2224050033	BOND SILICON	RTV 252	

LOC	PART CODE	PART NAME	PART TYPE	REMARK
V901	48A96414P1	CRT BARE	A34JLL90X	⚠
ZZ200	PTFMSJA531	MASK FRONT AS	DVT-14F6LA	
M201	4852064301	MASK FRONT	HIPS BK	
ZZ202	PTSPPWA531	SPEAKER AS	DVT-14F6LA	
PA601	4850703S03	CONN AS	YH025-03+YST025+ULW=200	
SP601	4858312410	SPEAKER	SP-77A04	
ZZ290	PTMPMSA531	PCB MAIN MANUAL AS	DVT-14F6LA	
ANT01	4850M03110	MODULE RF	PH-RF-9701A	
D101	D1S2186---	DIODE	1S2186	
D102	D1S2186---	DIODE	1S2186	
D108	DBB909A---	DIODE	BB909A	
DL01	D1S2186---	DIODE	1S2186	
DL02	D1S2186---	DIODE	1S2186	
DN01	DS15312H--	LED IR	SI5312-H	
DN01A	97P2339600	HOLDER IR	ABS	
DQ01	DKLY114L--	LED	KLY 114-L (YELLOW)	
DQ02	DKLG114L--	LED	KLG-114L	
DQ03	DKLR114L--	LED	KLR114L	
HP601	4859102430	JACK EARPHONE	YSC-1538	
I201	1TDA9802--	IC	TDA9802	
I501	1TDA8374N3	IC VIDEO PROCESSOR	TDA8374/N3	
I502	1TDA4665V4	IC DELAY	TDA4665/V4	
I503	1TDA8395--	IC	TDA8395	
I504	1TC4053BP-	IC	TC4053BP	
I505	1KA7808---	IC REGULATOR	KA7808	
I601	PTB2SW8900	HEAT SINK ASS`Y	1TDA7056-- + 7174300811	
I601	1TDA7056--	IC	TDA7056	
I601A	4857018900	HEAT SINK IC	A1050P-H24 T1.6	
I601B	7174300811	SCREW TAPPTITE	TT2 RND 3X8 MFZN	
I702	1MN1280R--	IC	MN1280R	
I703	1CAT24C08P	IC	CAT24C08P	
IL01	1STV8225--	IC SIF	STV8225	
IL02	1STV8225--	IC SIF	STV8225	
IN02	1K1A7042P-	IC SWITCH	KIA7042P	
IN03	1BA6209---	IC	BA6209	
IQ01	1TFMW5380-	IC PREAMP	TFMW5380	
IY03	1TA1238N--	IC SECAM.L	TA1238N	
IY04	1LA70001--	IC PREAMP	LA70001 (2HD)	
JA01	4859104940	JACK PHONO	YSC02P-4100-13A	

LOC	PART CODE	PART NAME	PART TYPE	REMARK
JS01	4859200401	SOCKET RGB	SR-21A1 (ANGLE TYPE)	
L101	58C9780027	COIL CHOKE	TRF-1201B (0.97 UH)	
L102	58E0000S37	COIL AFT	TRF-A001	
L103	58C9780027	COIL CHOKE	TRF-1201B (0.97 UH)	
L201	58B0000S88	COIL PIF	TRF-7780A (STICK)	
L604	58C6R8J067	COIL CHOKE	TRF-1015C (6.8UH J)	
M193	4851930200	DECK AS	DRP-7203(2HD,SP/LP)	
M194	4851931601	FRAME MAIN PCB AS	3816000+7817620+7817640	
M194A	7122401612	SCREW TAPPING	T2S TRS 4X16 MFZN BK	
M194B	7121301212	SCREW TAPPING	T2S PAN 3X12 MFZN BK	
M194C	7128301212	SCREW TAPPING	T2S WAS 3X12 MFZN BK	
M231	97P2316600	HOLDER AC CORD	NYLON66 UL/CSA	
M351	4853530800	HOLDER LED	FR HIPS BK	
M391	4853948400	BRKT EARTH	C5212P-1/2M T0.15	
M681	4856812001	TIE CABLE	NYLON66 DA100	
M682	4856814600	CLAMP WIRE	NYLON 66	
M721	4857242900	SHIELD TOP	SECC-O T0.8	
M721A	7122401612	SCREW TAPPING	T2S TRS 4X16 MFZN BK	
M721B	7128301212	SCREW TAPPING	T2S WAS 3X12 MFZN BK	
M722	4851923500	SHIELD CASE AS	DVN-14F7JA	
M723	4857242000	SHIELD PLATE	SPTH-C T0.3	
M724	4857243300	SHIELD CASE	ET T0.3	
M724A	7174300811	SCREW TAPPTITE	TT2 RND 3X8 MFZN	
M725A	7128301011	SCREW TAPPING	T2S WAS 3X10 MFZN	
M791	4857913304	RUBBER CUSHION	FR RUBBER SPONGE	
PA405	4850705S02	CONN AS	YH025-05+YST025+ULW=200	
PA406	4850705S03	CONN AS	YH025-05+YST025+ULW=300	
PA408	4850707S12	CONN AS	YH025-07+YST025+UAW=400	
PA803	4850703S20	CONN AS	YH025-03+YST025+ULW=400	
PA805	4850710V04	CONN AS	YH025-10+YBNH250+ULW=200	
PAN01	4850707V04	CONN AS	60-8283-3078-45+ULW=200	
PAY01	4859245710	CONN HOUSING	00-8370-041-000-800	
PAY02	4850702V07	CONN AS	BIC-02H-20T+USW=100	
PAY03	4850706V10	CONN AS	60-8283-3068-45+UAW=150	
PN02	4859278120	CONN WAFER	TKC-G06P-A1	
PN03	4859278220	CONN WAFER	TKC-G10P-A1	
R580	RF-2Y100J-	R FUSIBLE	1/2W 10 OHM J	
SF01	5PG1966M--	FILTER SAW	G1966M	
SF02	5PL9461M--	FILTER SAW	L 9461-M	

LOC	PART CODE	PART NAME	PART TYPE	REMARK
SF03	5PG1966M--	FILTER SAW	G1966M	
SF04	5PL9461M--	FILTER SAW	L 9461-M	
SN01	1SG239S---	IC SENSOR	SG-239S	
SN02	1SG239S---	IC SENSOR	SG-239S	
SN03	TST5811---	TR PHOTO	ST-5811(D-RANK)	
SN03A	97P2338200	HOLDER TR	ABS	
SN04	TST5811---	TR PHOTO	ST-5811(D-RANK)	
SN04A	97P2338200	HOLDER TR	ABS	
SW01	5SN0101Z20	SW DETECT	JDS1105-6X	
SW06	5S50202002	SW TACT	JTM-1108B 2C-2P	
SW07	5S50202002	SW TACT	JTM-1108B 2C-2P	
SW08	5S40202013	SW PUSH	SPUJ19XSM011(KPJ 2S1B)	
TY01	5800000032	COIL OSC	DE0-006	
U101	4859717030	TUNER VARACTOR	TELE9-084A	
U101A	4859005350	JACK PHONE PLUG AS	PLUG+CABLE1365 AWG24=150D	
U102	4859717030	TUNER VARACTOR	TELE9-084A	
U102A	4859005450	JACK PHONE PLUG AS	PLUG+CABLE1365 AWG24=250D	
X701	5XE18R000E	CRYSTAL QUARTZ	HC-49/U 18.000MHZ 30PPM	
Z203	5PMKT40MA-	FILTER CERA	MKT40MA100P	
Z205	5PMKT40MA-	FILTER CERA	MKT40MA100P	
ZZ200	PTMPJ2A531	PCB CHIP MOUNT B AS	DVT-14F6LA	
CC101	HCQK220JCA	C CHIP CERA	50V CH 22PF J 2012	
CC102	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CC103	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CC104	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CC105	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CC108	HCBK102KCA	C CHIP CERA	50V X7R 1000PF K 2012	
CC109	HCQK101JCA	C CHIP CERA	50V CH 100PF J 2012	
CC110	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CC111	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CC112	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CC113	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CC114	HCQK102JCA	C CHIP CERA	50V CH 1000PF J 2012	
CC115	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CC116	HCQK101JCA	C CHIP CERA	50V CH 100PF J 2012	
CC117	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CC118	HCQK221JCA	C CHIP CERA	50V CH 220PF J 2012	
CC119	HCQK221JCA	C CHIP CERA	50V CH 220PF J 2012	
CC201	HCBK333KCA	C CHIP CERA	50V X7R 0.033MF K 2012	

LOC	PART CODE	PART NAME	PART TYPE	REMARK
CC202	HCBK223KCA	C CHIP CERA	50V X7R 0.022MF K 2012	
CC203	HCQK220JCA	C CHIP CERA	50V CH 22PF J 2012	
CC204	HCQK220JCA	C CHIP CERA	50V CH 22PF J 2012	
CC205	HCQK820JCA	C CHIP CERA	50V CH 82PF J 2012	
CC206	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CC207	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CC208	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CC209	HCBH224KCA	C CHIP CERA	25V X7R 0.22MF K 2012	
CC211	HCQK820JCA	C CHIP CERA	50V CH 82PF J 2012	
CC212	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CC213	HCBK102KCA	C CHIP CERA	50V X7R 1000PF K 2012	
CC214	HCQK390JCA	C CHIP CERA	50V CH 39PF J 2012	
CC215	HCQK220JCA	C CHIP CERA	50V CH 22PF J 2012	
CC217	HCBK102KCA	C CHIP CERA	50V X7R 1000PF K 2012	
CC218	HCBK102KCA	C CHIP CERA	50V X7R 1000PF K 2012	
CC220	HCBK472KCA	C CHIP CERA	50V X7R 4700PF K 2012	
CC221	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CC222	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CC223	HCBK333KCA	C CHIP CERA	50V X7R 0.033MF K 2012	
CC224	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CC225	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CC228	HCTAF229MB	C CHIP TANTAL	16V 2.2MF M 3216	
CC235	HCQK221JCA	C CHIP CERA	50V CH 220PF J 2012	
CC236	HCQK221JCA	C CHIP CERA	50V CH 220PF J 2012	
CC503	HCTAJ478MB	C CHIP TANTAL	35V 0.47MF M 3216	
CC504	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CC505	HCTAJ478MB	C CHIP TANTAL	35V 0.47MF M 3216	
CC506	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CC507	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CC508	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CC509	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CC510	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CC511	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CC512	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CC513	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CC515	HCBK102KCA	C CHIP CERA	50V X7R 1000PF K 2012	
CC516	HCBK102KCA	C CHIP CERA	50V X7R 1000PF K 2012	
CC517	HCBK102KCA	C CHIP CERA	50V X7R 1000PF K 2012	
CC518	HCBK102KCA	C CHIP CERA	50V X7R 1000PF K 2012	

LOC	PART CODE	PART NAME	PART TYPE	REMARK
CC519	HCBK102KCA	C CHIP CERA	50V X7R 1000PF K 2012	
CC520	HCBK102KCA	C CHIP CERA	50V X7R 1000PF K 2012	
CC521	HCBK102KCA	C CHIP CERA	50V X7R 1000PF K 2012	
CC522	HCBK102KCA	C CHIP CERA	50V X7R 1000PF K 2012	
CC523	HCQK130JCA	C CHIP CERA	50V CH 13PF J 2012	
CC524	HCQK130JCA	C CHIP CERA	50V CH 13PF J 2012	
CC525	HCBK181KEA	C CHIP CERA	50V X7R 180PF K 3216	
CC526	HCBK181KEA	C CHIP CERA	50V X7R 180PF K 3216	
CC527	HCBK181KEA	C CHIP CERA	50V X7R 180PF K 3216	
CC528	HCBK181KEA	C CHIP CERA	50V X7R 180PF K 3216	
CC529	HCBK223KCA	C CHIP CERA	50V X7R 0.022MF K 2012	
CC531	HCQK151JCA	C CHIP CERA	50V CH 150PF J 2012	
CC532	HCQK680JCA	C CHIP CERA	50V CH 68PF J 2012	
CC533	HCBK392KCA	C CHIP CERA	50V X7R 3900PF K 2012	
CC534	HCBK472KCA	C CHIP CERA	50V X7R 4700PF K 2012	
CC535	HCBK472KCA	C CHIP CERA	50V X7R 4700PF K 2012	
CC536	HCBK332KCA	C CHIP CERA	50V X7R 3300PF K 2012	
CC537	HCQK560JCA	C CHIP CERA	50V CH 56PF J 2012	
CC538	HCBK223KCA	C CHIP CERA	50V X7R 0.022MF K 2012	
CC539	HCQK221JCA	C CHIP CERA	50V CH 220PF J 2012	
CC540	HCTBF100MB	C CHIP TANTAL	16V 10MF M 3528	
CC541	HCBK223KCA	C CHIP CERA	50V X7R 0.022MF K 2012	
CC542	HCTAJ478MB	C CHIP TANTAL	35V 0.47MF M 3216	
CC544	HCQK100DCA	C CHIP CERA	50V CH 10PF D 2012	
CC549	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CC550	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CC551	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CC552	HCTAF229MB	C CHIP TANTAL	16V 2.2MF M 3216	
CC554	HCTAF229MB	C CHIP TANTAL	16V 2.2MF M 3216	
CC561	HCTAF229MB	C CHIP TANTAL	16V 2.2MF M 3216	
CC568	HCTAF229MB	C CHIP TANTAL	16V 2.2MF M 3216	
CC569	HCTAH109MB	C CHIP TANTAL	25V 1MF M 3216	
CC572	HCTAJ478MB	C CHIP TANTAL	35V 0.47MF M 3216	
CC573	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CC574	HCBK102KCA	C CHIP CERA	50V X7R 1000PF K 2012	
CC575	HCTAF229MB	C CHIP TANTAL	16V 2.2MF M 3216	
CC576	HCBK473KCA	C CHIP CERA	50V X7R 0.047MF K 2012	
CC601	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CC602	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	

LOC	PART CODE	PART NAME	PART TYPE	REMARK
CC603	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CC604	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CC605	HCQK101JCA	C CHIP CERA	50V CH 100PF J 2012	
CC606	HCQK101JCA	C CHIP CERA	50V CH 100PF J 2012	
CC607	HCBK102KCA	C CHIP CERA	50V X7R 1000PF K 2012	
CC608	HCBK102KCA	C CHIP CERA	50V X7R 1000PF K 2012	
CC612	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CC701	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CC702	HCBK333KCA	C CHIP CERA	50V X7R 0.033MF K 2012	
CC703	HCBK333KCA	C CHIP CERA	50V X7R 0.033MF K 2012	
CC704	HCBK472KCA	C CHIP CERA	50V X7R 4700PF K 2012	
CC705	HCBH224KCA	C CHIP CERA	25V X7R 0.22MF K 2012	
CC706	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CC707	HCQK150JCA	C CHIP CERA	50V CH 15PF J 2012	
CC708	HCQK180JCA	C CHIP CERA	50V CH 18PF J 2012	
CC709	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CC710	HCQK160JCA	C CHIP CERA	50V CH 16PF J 2012	
CC712	HCQK390JCA	C CHIP CERA	50V CH 39PF J 2012	
CC713	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CC714	HCQK330JCA	C CHIP CERA	50V CH 33PF J 2012	
CC715	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CC716	HCQK221JCA	C CHIP CERA	50V CH 220PF J 2012	
CC717	HCBH224KCA	C CHIP CERA	25V X7R 0.22MF K 2012	
CC718	HCTAJ478MB	C CHIP TANTAL	35V 0.47MF M 3216	
CC720	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CC721	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CC725	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CC727	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CC728	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CC729	HCTAH109MB	C CHIP TANTAL	25V 1MF M 3216	
CCL01	HCQK220JCA	C CHIP CERA	50V CH 22PF J 2012	
CCL02	HCQK150JCA	C CHIP CERA	50V CH 15PF J 2012	
CCL03	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCL04	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCL05	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CCL06	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CCL08	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCL10	HCQK101JCA	C CHIP CERA	50V CH 100PF J 2012	
CCL12	HCBK333KCA	C CHIP CERA	50V X7R 0.033MF K 2012	

LOC	PART CODE	PART NAME	PART TYPE	REMARK
CCL14	HCBK473KCA	C CHIP CERA	50V X7R 0.047MF K 2012	
CCL15	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCL16	HCQK820JCA	C CHIP CERA	50V CH 82PF J 2012	
CCL17	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCL18	HCBK473KCA	C CHIP CERA	50V X7R 0.047MF K 2012	
CCL19	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCL20	HCTBH479MB	C CHIP TANTAL	25V 4.7MF M 3528	
CCL21	HCTAF229MB	C CHIP TANTAL	16V 2.2MF M 3216	
CCL26	HCTAH109MB	C CHIP TANTAL	25V 1MF M 3216	
CCL27	HCTAH109MB	C CHIP TANTAL	25V 1MF M 3216	
CCL30	HCTBH479MB	C CHIP TANTAL	25V 4.7MF M 3528	
CCL31	HCQK101JCA	C CHIP CERA	50V CH 100PF J 2012	
CCL33	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
CCL34	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCL35	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCL36	HCTBF100MB	C CHIP TANTAL	16V 10MF M 3528	
CCN02	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CCN07	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCN08	HCBK102KCA	C CHIP CERA	50V X7R 1000PF K 2012	
CCN09	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCN10	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCN11	HCBK102KCA	C CHIP CERA	50V X7R 1000PF K 2012	
CCN12	HCBK102KCA	C CHIP CERA	50V X7R 1000PF K 2012	
CCN14	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCN15	HCBK332KCA	C CHIP CERA	50V X7R 3300PF K 2012	
CCN17	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CCN20	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCN21	HCBK223KCA	C CHIP CERA	50V X7R 0.022MF K 2012	
CCN29	HCBK223KCA	C CHIP CERA	50V X7R 0.022MF K 2012	
CCN31	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CCN37	HCTAH109MB	C CHIP TANTAL	25V 1MF M 3216	
CCN44	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CCN45	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CCN48	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CCN49	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCN50	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CCN52	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCN57	HCTBF100MB	C CHIP TANTAL	16V 10MF M 3528	
CCN58	HCTAH109MB	C CHIP TANTAL	25V 1MF M 3216	

LOC	PART CODE	PART NAME	PART TYPE	REMARK
CCN60	HCQK100DCA	C CHIP CERA	50V CH 10PF D 2012	
CCQ01	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCY01	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCY02	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCY03	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCY04	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCY05	HCBK223KCA	C CHIP CERA	50V X7R 0.022MF K 2012	
CCY06	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CCY07	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCY08	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCY09	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CCY10	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCY11	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCY14	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCY15	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCY16	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCY19	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CCY20	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCY21	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCY22	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CCY23	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CCY24	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CCY25	HCQK101JCA	C CHIP CERA	50V CH 100PF J 2012	
CCY26	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CCY27	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CCY28	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CCY29	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CCY30	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CCY31	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CCY32	HCBK153KCA	C CHIP CERA	50V X7R 0.015MF K 2012	
CCY33	HCQK101JCA	C CHIP CERA	50V CH 100PF J 2012	
CCY34	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCY35	HCBK473KCA	C CHIP CERA	50V X7R 0.047MF K 2012	
CCY36	HCBK473KCA	C CHIP CERA	50V X7R 0.047MF K 2012	
CCY37	HCBK102KCA	C CHIP CERA	50V X7R 1000PF K 2012	
CCY38	HCBK472KCA	C CHIP CERA	50V X7R 4700PF K 2012	
CCY39	HCQK220JCA	C CHIP CERA	50V CH 22PF J 2012	
CCY40	HCBK122KCA	C CHIP CERA	50V X7R 1200PF K 2012	
CCY42	HCQK270JCA	C CHIP CERA	50V CH 27PF J 2012	

LOC	PART CODE	PART NAME	PART TYPE	REMARK
CCY43	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CCY44	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCY46	HCQK201JCA	C CHIP CERA	50V CH 200PF J 2012	
CCY47	HCBK333KCA	C CHIP CERA	50V X7R 0.033MF K 2012	
CCY48	HCQK391JCA	C CHIP CERA	50V CH 390PF J 2012	
CCY50	HCBK223KCA	C CHIP CERA	50V X7R 0.022MF K 2012	
CCY52	HCQK101JCA	C CHIP CERA	50V CH 100PF J 2012	
CCY53	HCBK152KCA	C CHIP CERA	50V X7R 1500PF K 2012	
CCY55	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCY56	HCTBF100MB	C CHIP TANTAL	16V 10MF M 3528	
CCY59	HCBK473KCA	C CHIP CERA	50V X7R 0.047MF K 2012	
CCY60	HCTAH109MB	C CHIP TANTAL	25V 1MF M 3216	
CCY62	HCTAH109MB	C CHIP TANTAL	25V 1MF M 3216	
CCY63	HCTBH479MB	C CHIP TANTAL	25V 4.7MF M 3528	
CCY64	HCTAH109MB	C CHIP TANTAL	25V 1MF M 3216	
CCY65	HCTAH109MB	C CHIP TANTAL	25V 1MF M 3216	
CCY66	HCTAH109MB	C CHIP TANTAL	25V 1MF M 3216	
CCY67	HCTAH109MB	C CHIP TANTAL	25V 1MF M 3216	
CCY68	HCTBF100MB	C CHIP TANTAL	16V 10MF M 3528	
CCY69	HCTAJ108MB	C CHIP TANTAL	35V 0.1MF M 3216	
CCY70	HCTAH109MB	C CHIP TANTAL	25V 1MF M 3216	
CCY71	HCTAH109MB	C CHIP TANTAL	25V 1MF M 3216	
CCY74	HCTBF100MB	C CHIP TANTAL	16V 10MF M 3528	
CCY75	HCTBF100MB	C CHIP TANTAL	16V 10MF M 3528	
CCY76	HCTBF100MB	C CHIP TANTAL	16V 10MF M 3528	
CCY77	HCTBF100MB	C CHIP TANTAL	16V 10MF M 3528	
CCY79	HCTAH109MB	C CHIP TANTAL	25V 1MF M 3216	
CCY84	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCY91	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CCY92	HCQK330JCA	C CHIP CERA	50V CH 33PF J 2012	
CCY93	HCQK270JCA	C CHIP CERA	50V CH 27PF J 2012	
CCY94	HCQK680JCA	C CHIP CERA	50V CH 68PF J 2012	
CCY96	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCY97	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CCY98	HCBK102KCA	C CHIP CERA	50V X7R 1000PF K 2012	
CCY99	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
IY01	1LA71511MQ	IC CHIP SIGNALPROC	LA71511M	
IY02	1LC89977MM	IC CHIP DELAY LINE	LC89977M	
QC101	TKTC3881-B	TR CHIP	KTC3881	

LOC	PART CODE	PART NAME	PART TYPE	REMARK
QC102	T2SA812T2B	TR CHIP	2SA812-T2B	
QC103	TKTC3881-B	TR CHIP	KTC3881	
QC201	TKTC3881-B	TR CHIP	KTC3881	
QC202	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QC203	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QC204	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QC205	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QC501	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QC502	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QC503	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QC504	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QC505	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QC506	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QC510	T2SA812T2B	TR CHIP	2SA812-T2B	
QC511	T2SA812T2B	TR CHIP	2SA812-T2B	
QC512	T2SA812T2B	TR CHIP	2SA812-T2B	
QC601	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QC701	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QC702	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QC703	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QC704	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QC705	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QC706	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QCL01	TKTC3881-B	TR CHIP	KTC3881	
QCL02	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QCL03	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QCL05	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QCL06	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QCL07	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QCN02	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QCN03	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QCN04	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QCN05	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QCY01	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QCY02	T2SA812T2B	TR CHIP	2SA812-T2B	
QCY03	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QCY06	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QCY07	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QCY08	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	

LOC	PART CODE	PART NAME	PART TYPE	REMARK
QCY09	T2SA812T2B	TR CHIP	2SA812-T2B	
QCY10	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QCY11	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QCY12	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QCY13	T2SA812T2B	TR CHIP	2SA812-T2B	
QCY14	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QCY15	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QCY16	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QCY17	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
QCY18	T2SC1623T2	TR CHIP	2SC1623-L6/T2B	
RC103	HRFT333JCA	R CHIP	1/10 33K OHM J 2012	
RC105	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012	
RC106	HRFT470JCA	R CHIP	1/10 47 OHM J 2012	
RC107	HRFT122JCA	R CHIP	1/10 1.2K OHM J 2012	
RC108	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012	
RC109	HRFT101JCA	R CHIP	1/10 100 OHM J 2012	
RC110	HRFT122JCA	R CHIP	1/10 1.2K OHM J 2012	
RC111	HRFT470JCA	R CHIP	1/10 47 OHM J 2012	
RC112	HRFT122JCA	R CHIP	1/10 1.2K OHM J 2012	
RC113	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012	
RC114	HRFT101JCA	R CHIP	1/10 100 OHM J 2012	
RC115	HRFT511JCA	R CHIP	1/10 510 OHM J 2012	
RC116	HRFT221JCA	R CHIP	1/10 220 OHM J 2012	
RC201	HRFT182JCA	R CHIP	1/10 1.8K OHM J 2012	
RC204	HRFT302JCA	R CHIP	1/10 3K OHM J 2012	
RC205	HRFT271JCA	R CHIP	1/10 270 OHM J 2012	
RC207	HRFT223JCA	R CHIP	1/10 22K OHM J 2012	
RC208	HRFT223JCA	R CHIP	1/10 22K OHM J 2012	
RC209	HRFT104JCA	R CHIP	1/10 100K OHM J 2012	
RC210	HRFT153JCA	R CHIP	1/10 15K OHM J 2012	
RC211	HRFT222JCA	R CHIP	1/10 2.2K OHM J 2012	
RC213	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RC214	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RC215	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RC216	HRFT683JCA	R CHIP	1/10 68K OHM J 2012	
RC217	HRFT101JCA	R CHIP	1/10 100 OHM J 2012	
RC221	HRFT333JCA	R CHIP	1/10 33K OHM J 2012	
RC224	HRFT561JCA	R CHIP	1/10 560 OHM J 2012	
RC225	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	

LOC	PART CODE	PART NAME	PART TYPE	REMARK
RC226	HRFT752JCA	R CHIP	1/10 7.5K OHM J 2012	
RC228	HRFT223JCA	R CHIP	1/10 22K OHM J 2012	
RC229	HRFT331JCA	R CHIP	1/10 330 OHM J 2012	
RC230	HRFT152JCA	R CHIP	1/10 1.5K OHM J 2012	
RC231	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	
RC233	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	
RC234	HRFT470JCA	R CHIP	1/10 47 OHM J 2012	
RC235	HRFT561JCA	R CHIP	1/10 560 OHM J 2012	
RC236	HRFT471JCA	R CHIP	1/10 470 OHM J 2012	
RC237	HRFT751JCA	R CHIP	1/10 750 OHM J 2012	
RC239	HRFT242JCA	R CHIP	1/10 2.4K OHM J 2012	
RC501	HRFT333JCA	R CHIP	1/10 33K OHM J 2012	
RC503	HRFT223JCA	R CHIP	1/10 22K OHM J 2012	
RC507	HRFT683JCA	R CHIP	1/10 68K OHM J 2012	
RC509	HRFT391JCA	R CHIP	1/10 390 OHM J 2012	
RC510	HRFT750JCA	R CHIP	1/10 75 OHM J 2012	
RC511	HRFT750JCA	R CHIP	1/10 75 OHM J 2012	
RC512	HRFT750JCA	R CHIP	1/10 75 OHM J 2012	
RC513	HRFT750JCA	R CHIP	1/10 75 OHM J 2012	
RC514	HRFT750JCA	R CHIP	1/10 75 OHM J 2012	
RC515	HRFT560JCA	R CHIP	1/10 56 OHM J 2012	
RC518	HRFT101JCA	R CHIP	1/10 100 OHM J 2012	
RC519	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RC520	HRFT101JCA	R CHIP	1/10 100 OHM J 2012	
RC521	HRFT101JCA	R CHIP	1/10 100 OHM J 2012	
RC522	HRFT101JCA	R CHIP	1/10 100 OHM J 2012	
RC523	HRFT151JCA	R CHIP	1/10 150 OHM J 2012	
RC526	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	
RC527	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	
RC528	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	
RC530	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	
RC531	HRFT152JCA	R CHIP	1/10 1.5K OHM J 2012	
RC532	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	
RC533	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	
RC534	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	
RC536	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RC538	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RC539	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RC541	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	

LOC	PART CODE	PART NAME	PART TYPE	REMARK
RC542	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RC543	HRFT513JCA	R CHIP	1/10 51K OHM J 2012	
RC544	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RC545	HRFT153JCA	R CHIP	1/10 15K OHM J 2012	
RC546	HRFT153JCA	R CHIP	1/10 15K OHM J 2012	
RC547	HRFT473JCA	R CHIP	1/10 47K OHM J 2012	
RC548	HRFT153JCA	R CHIP	1/10 15K OHM J 2012	
RC552	HRFT123JCA	R CHIP	1/10 12K OHM J 2012	
RC553	HRFT122JCA	R CHIP	1/10 1.2K OHM J 2012	
RC554	HRFT333JCA	R CHIP	1/10 33K OHM J 2012	
RC556	HRFT331JCA	R CHIP	1/10 330 OHM J 2012	
RC557	HRFT391JCA	R CHIP	1/10 390 OHM J 2012	
RC558	HRFT182JCA	R CHIP	1/10 1.8K OHM J 2012	
RC559	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012	
RC560	HRFT393JCA	R CHIP	1/10 39K OHM J 2012	
RC561	HRFT303JCA	R CHIP	1/10 30K OHM J 2012	
RC562	HRFT471JCA	R CHIP	1/10 470 OHM J 2012	
RC565	HRFT561JCA	R CHIP	1/10 560 OHM J 2012	
RC566	HRFT561JCA	R CHIP	1/10 560 OHM J 2012	
RC567	HRFT562JCA	R CHIP	1/10 5.6K OHM J 2012	
RC568	HRFT681JCA	R CHIP	1/10 680 OHM J 2012	
RC569	HRFT270JCA	R CHIP	1/10 27 OHM J 2012	
RC570	HRFT203JCA	R CHIP	1/10 20K OHM J 2012	
RC574	HRFT181JCA	R CHIP	1/10 180 OHM J 2012	
RC575	HRFT183JCA	R CHIP	1/10 18K OHM J 2012	
RC577	HRFT470JCA	R CHIP	1/10 47 OHM J 2012	
RC581	HRFT242JCA	R CHIP	1/10 2.4K OHM J 2012	
RC582	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RC601	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	
RC702	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RC703	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RC704	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RC705	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012	
RC706	HRFT332JCA	R CHIP	1/10 3.3K OHM J 2012	
RC707	HRFT332JCA	R CHIP	1/10 3.3K OHM J 2012	
RC711	HRFT221JCA	R CHIP	1/10 220 OHM J 2012	
RC712	HRFT221JCA	R CHIP	1/10 220 OHM J 2012	
RC715	HRFT474JCA	R CHIP	1/10 470K OHM J 2012	
RC717	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	

LOC	PART CODE	PART NAME	PART TYPE	REMARK
RC718	HRFT101JCA	R CHIP	1/10 100 OHM J 2012	
RC719	HRFT101JCA	R CHIP	1/10 100 OHM J 2012	
RC722	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	
RC723	HRFT122JCA	R CHIP	1/10 1.2K OHM J 2012	
RC724	HRFT122JCA	R CHIP	1/10 1.2K OHM J 2012	
RC725	HRFT122JCA	R CHIP	1/10 1.2K OHM J 2012	
RC726	HRFT243JCA	R CHIP	1/10 24K OHM J 2012	
RC727	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012	
RC729	HRFT473JCA	R CHIP	1/10 47K OHM J 2012	
RC731	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RC732	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RC733	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RC734	HRFT682JCA	R CHIP	1/10 6.8K OHM J 2012	
RC735	HRFT682JCA	R CHIP	1/10 6.8K OHM J 2012	
RC736	HRFT822JCA	R CHIP	1/10 8.2K OHM J 2012	
RC739	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012	
RC740	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RC774	HRFT243JCA	R CHIP	1/10 24K OHM J 2012	
RC775	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012	
RC776	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012	
RC777	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012	
RC778	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012	
RC780	HRFT473JCA	R CHIP	1/10 47K OHM J 2012	
RCJ01	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RCJ02	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RCJ03	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RCJ04	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RCJ08	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RCJ09	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RCJ10	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RCJ11	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RCJ12	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RCJ13	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RCJ14	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RCJ15	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RCJ16	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RCJ17	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RCJ18	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RCJ19	HRFT000-CA	R CHIP	1/10 0 OHM 2012	

LOC	PART CODE	PART NAME	PART TYPE	REMARK
RCJ20	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RCJ21	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RCJ22	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RCJ23	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RCJ24	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RCJ25	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RCJ27	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RCJ28	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RCJ29	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RCJ30	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RCJ32	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RCJ33	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RCJ35	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RCJ36	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RCJ37	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RCJ38	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RCJ39	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RCJ40	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
RCL02	HRFT683JCA	R CHIP	1/10 68K OHM J 2012	
RCL03	HRFT222JCA	R CHIP	1/10 2.2K OHM J 2012	
RCL07	HRFT333JCA	R CHIP	1/10 33K OHM J 2012	
RCL12	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RCL13	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RCL14	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RCL15	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RCL16	HRFT101JCA	R CHIP	1/10 100 OHM J 2012	
RCL17	HRFT751JCA	R CHIP	1/10 750 OHM J 2012	
RCL18	HRFT153JCA	R CHIP	1/10 15K OHM J 2012	
RCL30	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	
RCL31	HRFT333JCA	R CHIP	1/10 33K OHM J 2012	
RCL32	HRFT123JCA	R CHIP	1/10 12K OHM J 2012	
RCL33	HRFT202JCA	R CHIP	1/10 2K OHM J 2012	
RCL34	HRFT561JCA	R CHIP	1/10 560 OHM J 2012	
RCL36	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	
RCN01	HRFT474JCA	R CHIP	1/10 470K OHM J 2012	
RCN07	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RCN09	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RCN10	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RCN11	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	

LOC	PART CODE	PART NAME	PART TYPE	REMARK
RCN20	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RCN23	HRFT154JCA	R CHIP	1/10 150K OHM J 2012	
RCN24	HRFT154JCA	R CHIP	1/10 150K OHM J 2012	
RCN27	HRFT105JCA	R CHIP	1/10 1M OHM J 2012	
RCN31	HRFT182JCA	R CHIP	1/10 1.8K OHM J 2012	
RCN32	HRFT182JCA	R CHIP	1/10 1.8K OHM J 2012	
RCN34	HRFT333JCA	R CHIP	1/10 33K OHM J 2012	
RCN40	HRFT104JCA	R CHIP	1/10 100K OHM J 2012	
RCN41	HRFT106JCA	R CHIP	1/10 10M OHM J 2012	
RCN45	HRFT302JCA	R CHIP	1/10 3K OHM J 2012	
RCN51	HRFT511FCA	R CHIP	1/10 510 OHM F 2012	
RCN52	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012	
RCN60	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RCN61	HRFT223JCA	R CHIP	1/10 22K OHM J 2012	
RCN62	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RCQ04	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	
RCQ05	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	
RCQ06	HRFT161JCA	R CHIP	1/10 160 OHM J 2012	
RCQ07	HRFT161JCA	R CHIP	1/10 160 OHM J 2012	
RCQ09	HRFT221JCA	R CHIP	1/10 220 OHM J 2012	
RCQ10	HRFT221JCA	R CHIP	1/10 220 OHM J 2012	
RCQ11	HRFT202JCA	R CHIP	1/10 2K OHM J 2012	
RCQ13	HRFT361JCA	R CHIP	1/10 360 OHM J 2012	
RCQ14	HRFT511FCA	R CHIP	1/10 510 OHM F 2012	
RCY01	HRFT152JCA	R CHIP	1/10 1.5K OHM J 2012	
RCY02	HRFT152JCA	R CHIP	1/10 1.5K OHM J 2012	
RCY04	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	
RCY07	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	
RCY08	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	
RCY09	HRFT123JCA	R CHIP	1/10 12K OHM J 2012	
RCY10	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	
RCY11	HRFT823JCA	R CHIP	1/10 82K OHM J 2012	
RCY13	HRFT152JCA	R CHIP	1/10 1.5K OHM J 2012	
RCY15	HRFT471JCA	R CHIP	1/10 470 OHM J 2012	
RCY16	HRFT822JCA	R CHIP	1/10 8.2K OHM J 2012	
RCY17	HRFT822JCA	R CHIP	1/10 8.2K OHM J 2012	
RCY18	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RCY19	HRFT202JCA	R CHIP	1/10 2K OHM J 2012	
RCY20	HRFT202JCA	R CHIP	1/10 2K OHM J 2012	

LOC	PART CODE	PART NAME	PART TYPE	REMARK
RCY23	HRFT132JCA	R CHIP	1/10 1.3K OHM J 2012	
RCY24	HRFT124JCA	R CHIP	1/10 120K OHM J 2012	
RCY25	HRFT392JCA	R CHIP	1/10 3.9K OHM J 2012	
RCY26	HRFT223JCA	R CHIP	1/10 22K OHM J 2012	
RCY29	HRFT303JCA	R CHIP	1/10 30K OHM J 2012	
RCY30	HRFT561JCA	R CHIP	1/10 560 OHM J 2012	
RCY32	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RCY33	HRFT333JCA	R CHIP	1/10 33K OHM J 2012	
RCY34	HRFT432JCA	R CHIP	1/10 4.3K OHM J 2012	
RCY35	HRFT152JCA	R CHIP	1/10 1.5K OHM J 2012	
RCY36	HRFT202JCA	R CHIP	1/10 2K OHM J 2012	
RCY37	HRFT822JCA	R CHIP	1/10 8.2K OHM J 2012	
RCY38	HRFT511JCA	R CHIP	1/10 510 OHM J 2012	
RCY39	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012	
RCY40	HRFT183JCA	R CHIP	1/10 18K OHM J 2012	
RCY41	HRFT225JCA	R CHIP	1/10 2.2M OHM J 2012	
RCY42	HRFT561JCA	R CHIP	1/10 560 OHM J 2012	
RCY43	HRFT562JCA	R CHIP	1/10 5.6K OHM J 2012	
RCY44	HRFT201JCA	R CHIP	1/10 200 OHM J 2012	
RCY45	HRFT391JCA	R CHIP	1/10 390 OHM J 2012	
RCY48	HRFT331JCA	R CHIP	1/10 330 OHM J 2012	
RCY50	HRFT334JCA	R CHIP	1/10 330K OHM J 2012	
RCY51	HRFT302JCA	R CHIP	1/10 3K OHM J 2012	
RCY52	HRFT132JCA	R CHIP	1/10 1.3K OHM J 2012	
RCY53	HRFT122JCA	R CHIP	1/10 1.2K OHM J 2012	
RCY55	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RCY56	HRFT512JCA	R CHIP	1/10 5.1K OHM J 2012	
RCY57	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RCY59	HRFT470JCA	R CHIP	1/10 47 OHM J 2012	
RCY60	HRFT221JCA	R CHIP	1/10 220 OHM J 2012	
RCY61	HRFT271JCA	R CHIP	1/10 270 OHM J 2012	
RCY66	HRFT302JCA	R CHIP	1/10 3K OHM J 2012	
RCY67	HRFT101JCA	R CHIP	1/10 100 OHM J 2012	
RCY68	HRFT681JCA	R CHIP	1/10 680 OHM J 2012	
RCY69	HRFT122JCA	R CHIP	1/10 1.2K OHM J 2012	
RCY70	HRFT104JCA	R CHIP	1/10 100K OHM J 2012	
RCY71	HRFT104JCA	R CHIP	1/10 100K OHM J 2012	
RCY72	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RCY74	HRFT154JCA	R CHIP	1/10 150K OHM J 2012	

LOC	PART CODE	PART NAME	PART TYPE	REMARK
RCY75	HRFT154JCA	R CHIP	1/10 150K OHM J 2012	
RCY77	HRFT223JCA	R CHIP	1/10 22K OHM J 2012	
RCY78	HRFT273JCA	R CHIP	1/10 27K OHM J 2012	
RCY79	HRFT104JCA	R CHIP	1/10 100K OHM J 2012	
RCY80	HRFT104JCA	R CHIP	1/10 100K OHM J 2012	
RCY81	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
XNC01	HXA32R768C	CRYSTAL CHIP QUARTZ	32.768KHZ 20PPM 8038	
ZZ200	PTMPJ0A531	PCB MAIN (RHU) AS	DVT-14F6LA	
C230	CEXF1C471V	C ELECTRO	16V RSS 470MF (10X12.5)TP	
C237	CEXF1E331V	C ELECTRO	25V RSS 330MF (10X12.5)TP	
C566	CEXF1C102V	C ELECTRO	16V RSS 1000MF (10X20) TP	
C567	CEXF1C102V	C ELECTRO	16V RSS 1000MF (10X20) TP	
C610	CEXF1E471C	C ELECTRO	25V RUS 470MF (10X16) TP	
ZZ200	PTMPJBA531	PCB MAIN M-10 AS	DVT-14F6LA	
P101	485923162S	CONN WAFER	YW025-03 (STICK)	
P601	485923162S	CONN WAFER	YW025-03 (STICK)	
PY04	485923202S	CONN WAFER	YW025-07 (STICK)	
R121	RS02Z200JS	R M-OXIDE FILM	2W 20 OHM J SMALL	
R738	RS02Z270JS	R M-OXIDE FILM	2W 27 OHM J SMALL	
RN53	RS02Z399JS	R M-OXIDE FILM	2W 3.9 OHM J SMALL	
ZZ200	PTMPJRA531	PCB MAIN RADIAL AS	DVT-14F6LA	
C107	CEXF1E470V	C ELECTRO	25V RSS 47MF (5X11) TP	
C225	CEXF1H220V	C ELECTRO	50V RSS 22MF (5X11) TP	
C226	CEXF1E470V	C ELECTRO	25V RSS 47MF (5X11) TP	
C227	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	
C229	CEXF1E470V	C ELECTRO	25V RSS 47MF (5X11) TP	
C231	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP	
C232	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP	
C233	CEXF1E101V	C ELECTRO	25V RSS 100MF (6.3X11) TP	
C234	CEXF1E101V	C ELECTRO	25V RSS 100MF (6.3X11) TP	
C543	CEXF1H229V	C ELECTRO	50V RSS 2.2MF (5X11) TP	
C545	CMXM2A104J	C MYLAR	100V 0.1MF J (TP)	
C546	CMXM2A104J	C MYLAR	100V 0.1MF J (TP)	
C547	CMXM2A473J	C MYLAR	100V 0.047MF J (TP)	
C548	CMXM2A104J	C MYLAR	100V 0.1MF J (TP)	
C553	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	
C555	CMXB1H224J	C MYLAR	50V EU 0.22MF J (TP)	
C556	CEXF1E470V	C ELECTRO	25V RSS 47MF (5X11) TP	
C557	CEXF1E470V	C ELECTRO	25V RSS 47MF (5X11) TP	

LOC	PART CODE	PART NAME	PART TYPE	REMARK
C558	CEXF1E470V	C ELECTRO	25V RSS 47MF (5X11) TP	
C559	CEXF1E470V	C ELECTRO	25V RSS 47MF (5X11) TP	
C560	CEXF1E470V	C ELECTRO	25V RSS 47MF (5X11) TP	
C562	CEXF1E470V	C ELECTRO	25V RSS 47MF (5X11) TP	
C564	CEXF1E101V	C ELECTRO	25V RSS 100MF (6.3X11) TP	
C565	CEXF1E101V	C ELECTRO	25V RSS 100MF (6.3X11) TP	
C570	CEXF1E101V	C ELECTRO	25V RSS 100MF (6.3X11) TP	
C571	CEXF1H478V	C ELECTRO	50V RSS 0.47MF (5X11) TP	
C591	CEXF1E101V	C ELECTRO	25V RSS 100MF (6.3X11) TP	
C609	CEXF1E470V	C ELECTRO	25V RSS 47MF (5X11) TP	
C611	CEXF1E470V	C ELECTRO	25V RSS 47MF (5X11) TP	
C719	CEXF1C470A	C ELECTRO	16V RSM 47MF (5X7) TP	
C720	CEXF1A471V	C ELECTRO	10V RSS 470MF 8X11.5	
C721	CEXF1C101A	C ELECTRO	16V RSM 100MF (6.3X7) TP	
C722	CEXF1A471V	C ELECTRO	10V RSS 470MF 8X11.5	
C723	CEXF1C101A	C ELECTRO	16V RSM 100MF (6.3X7) TP	
C724	CEXF1E221V	C ELECTRO	25V RSS 220MF (8X11.5) TP	
CL22	CEXF1C470A	C ELECTRO	16V RSM 47MF (5X7) TP	
CL23	CEXF1C470A	C ELECTRO	16V RSM 47MF (5X7) TP	
CL28	CEXD1H229F	C ELECTRO	50V RND 2.2MF (5X11) TP	
CL30	CEXD1H229F	C ELECTRO	50V RND 2.2MF (5X11) TP	
CN23	CXCH1H180J	C CERA	50V CH 18PF J (TAPPING)	
CN24	CXCH1H180J	C CERA	50V CH 18PF J (TAPPING)	
CN25	CXCH1H220J	C CERA	50V CH 22PF J (TAPPING)	
CN26	CXCH1H220J	C CERA	50V CH 22PF J (TAPPING)	
CN27	CEXF1C470A	C ELECTRO	16V RSM 47MF (5X7) TP	
CN30	CEXF1C470A	C ELECTRO	16V RSM 47MF (5X7) TP	
CN31	CEXF1C470A	C ELECTRO	16V RSM 47MF (5X7) TP	
CN34	CEXF1A471V	C ELECTRO	10V RSS 470MF 8X11.5	
CN35	CEXF1C470A	C ELECTRO	16V RSM 47MF (5X7) TP	
CN36	CEXF1C470A	C ELECTRO	16V RSM 47MF (5X7) TP	
CN46	CEXF1E221V	C ELECTRO	25V RSS 220MF (8X11.5) TP	
CN47	CEXF1C101A	C ELECTRO	16V RSM 100MF (6.3X7) TP	
CN56	CEXF1C470A	C ELECTRO	16V RSM 47MF (5X7) TP	
CQ02	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	
CQ03	CEXF1E101V	C ELECTRO	25V RSS 100MF (6.3X11) TP	
CY49	CMXM2A223J	C MYLAR	100V 0.022MF J TP	
CY57	CEXF1H478A	C ELECTRO	50V RSM 0.47MF (4X7)	
CY58	CEXF1H478A	C ELECTRO	50V RSM 0.47MF (4X7)	

LOC	PART CODE	PART NAME	PART TYPE	REMARK
CY61	CEXF1H109A	C ELECTRO	50V RSM 1MF (4X7) TP	
CY72	CEXF1C470A	C ELECTRO	16V RSM 47MF (5X7) TP	
CY73	CEXF1C470A	C ELECTRO	16V RSM 47MF (5X7) TP	
CY78	CEXF1C220A	C ELECTRO	16V RSM 22MF (5X7)	
CY80	CEXF1C470A	C ELECTRO	16V RSM 47MF (5X7) TP	
CY81	CEXF1C470A	C ELECTRO	16V RSM 47MF (5X7) TP	
CY82	CEXF1C470A	C ELECTRO	16V RSM 47MF (5X7) TP	
CY83	CEXF1C470A	C ELECTRO	16V RSM 47MF (5X7) TP	
CY85	CEXF1H220V	C ELECTRO	50V RSS 22MF (5X11) TP	
CY86	CEXF1C470A	C ELECTRO	16V RSM 47MF (5X7) TP	
CY88	CEXF1C220A	C ELECTRO	16V RSM 22MF (5X7)	
CY90	CEXF1C470A	C ELECTRO	16V RSM 47MF (5X7) TP	
LY12	5CPX103J--	COIL PEAKING	10MH 5MM J RADIAL	
QQ01	TKRC102M--	TR	KRC 102-M (TAPPING)	
QQ02	TKRC102M--	TR	KRC 102-M (TAPPING)	
QQ03	TKRC102M--	TR	KRC 102-M (TAPPING)	
QY04	TKTC3202Y-	TR	KTC3202Y (TP)	
R202	RV4121203-	R SEMI FIXED	NVZ6TH1 20K OHM	
R240	RV5426103P	R SEMI FIXED	RH0638C 10K OHM B	
SW02	5S50101090	SW TACT	SKHV17910A	
SW03	5S50101090	SW TACT	SKHV17910A	
SW04	5S50101090	SW TACT	SKHV17910A	
SW05	5S50101090	SW TACT	SKHV17910A	
SW09	5S50101090	SW TACT	SKHV17910A	
SW10	5S50101Z90	SW TACT	SKHV10910A	
X501	5XEX3R579C	CRYSTAL QUARTZ	HC-49U 3.579545M (TP)	
X502	5XEX4R436C	CRYSTAL QUARTZ	HC-49U 4.433619M 20PP TA	
XL01	5XJX4R286C	CRYSTAL QUARTZ	HC-49S 4.286000M 20PPM TP	
XN02	5XJX16R00E	CRYSTAL QUARTZ	HC-49S 16.00000M 30PPM TP	
XY02	5XJX4R433B	CRYSTAL QUARTZ	HC-49S 4.433619M 15PPM TP	
Z204	5PXFSH5R5M	FILTER CERA	SFSH5.5MCB-TF21 (TP)	
Z206	5PXPS5R5MB	FILTER CERA	TPS5.5MB-TF21 (TP)	
Z502	5PXFSH5R5M	FILTER CERA	SFSH5.5MCB-TF21 (TP)	
Z504	5PXPS5R5MB	FILTER CERA	TPS5.5MB-TF21 (TP)	
ZZ200	PTMPJAA531	PCB MAIN AXIAL AS	DVT-14F6LA	
A001	4859801593	PCB MAIN	330X246 D1B	
C501	CBZF1H104Z	C CERA AXIAL	50V F 0.1MF Z	
C502	CBZF1H104Z	C CERA AXIAL	50V F 0.1MF Z	
CL07	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	

LOC	PART CODE	PART NAME	PART TYPE	REMARK
CL13	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	
CN01	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	
CN03	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	
CN04	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	
CN05	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	
CN06	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	
CN13	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	
CN18	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	
CN19	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	
CN33	CBZF1H104Z	C CERA AXIAL	50V F 0.1MF Z	
CN51	CCZB1H101K	C CERA AXIAL	50V B 100PF K	
CN53	CCZB1H101K	C CERA AXIAL	50V B 100PF K	
CN54	CCZB1H101K	C CERA AXIAL	50V B 100PF K	
CN55	CCZB1H101K	C CERA AXIAL	50V B 100PF K	
CN59	CCZF1E223Z	C CERA AXIAL	25V F 0.022MF Z	
CY07	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	
CY12	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	
CY13	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	
CY17	CCZF1E223Z	C CERA AXIAL	25V F 0.022MF Z	
CY18	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	
CY87	CBZF1H104Z	C CERA AXIAL	50V F 0.1MF Z	
CY95	CBZR1C562M	C CERA AXIAL	16V Y5R 5600PF M	
D103	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
D104	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
D106	D1N4003---	DIODE	1N4003 (TAPPING)	
D109	DUZ5R1BM--	DIODE ZENER	UZ-5.1BM	
D110	DUZ5R1BM--	DIODE ZENER	UZ-5.1BM	
D111	DUZ5R1BM--	DIODE ZENER	UZ-5.1BM	
D112	DUZ9R1BM--	DIODE ZENER	UZ-9.1BM 9.1V	
D501	DUZ5R1BM--	DIODE ZENER	UZ-5.1BM	
D502	D1N4148---	DIODE	1N4148 (TAPPING)	
D503	DUZ5R1BM--	DIODE ZENER	UZ-5.1BM	
D504	D1N4148---	DIODE	1N4148 (TAPPING)	
D507	D1N4148---	DIODE	1N4148 (TAPPING)	
D508	DUZ6R2BM--	DIODE ZENER	UZ-6.2BM 6.2V	
D509	DUZ6R2BM--	DIODE ZENER	UZ-6.2BM 6.2V	
D510	DUZ6R2BM--	DIODE ZENER	UZ-6.2BM 6.2V	
D511	DUZ6R2BM--	DIODE ZENER	UZ-6.2BM 6.2V	
D512	DUZ6R2BM--	DIODE ZENER	UZ-6.2BM 6.2V	

LOC	PART CODE	PART NAME	PART TYPE	REMARK
D513	DUZ6R2BM--	DIODE ZENER	UZ-6.2BM 6.2V	
D514	DUZ6R2BM--	DIODE ZENER	UZ-6.2BM 6.2V	
D515	DUZ6R2BM--	DIODE ZENER	UZ-6.2BM 6.2V	
D516	DUZ6R2BM--	DIODE ZENER	UZ-6.2BM 6.2V	
D517	D1N4148---	DIODE	1N4148 (TAPPING)	
D701	D1N4148---	DIODE	1N4148 (TAPPING)	
D702	D1N4148---	DIODE	1N4148 (TAPPING)	
D703	D1N4148---	DIODE	1N4148 (TAPPING)	
D704	D1N4148---	DIODE	1N4148 (TAPPING)	
D705	D1N4003---	DIODE	1N4003 (TAPPING)	
D706	D1N4148---	DIODE	1N4148 (TAPPING)	
D707	DUZ9R1BM--	DIODE ZENER	UZ-9.1BM 9.1V	
D709	D1N4148---	DIODE	1N4148 (TAPPING)	
DA01	DUZ6R2BM--	DIODE ZENER	UZ-6.2BM 6.2V	
DA02	D1N4148---	DIODE	1N4148 (TAPPING)	
DA03	DMTZ6R2B--	DIODE ZENER	MTZ 6.2-B (TAPPING)	
DN02	D1N4003---	DIODE	1N4003 (TAPPING)	
DN03	D1N4003---	DIODE	1N4003 (TAPPING)	
DN05	DUZ6R2BM--	DIODE ZENER	UZ-6.2BM 6.2V	
DN07	D1N4148---	DIODE	1N4148 (TAPPING)	
DN08	D1N4148---	DIODE	1N4148 (TAPPING)	
DQ04	DUZ6R2BM--	DIODE ZENER	UZ-6.2BM 6.2V	
DQ05	DUZ6R2BM--	DIODE ZENER	UZ-6.2BM 6.2V	
DQ06	DUZ6R2BM--	DIODE ZENER	UZ-6.2BM 6.2V	
DQ07	D1N4148---	DIODE	1N4148 (TAPPING)	
DY01	D1N4148---	DIODE	1N4148 (TAPPING)	
DY02	D1N4148---	DIODE	1N4148 (TAPPING)	
DY03	D1N4148---	DIODE	1N4148 (TAPPING)	
DY04	D1N4148---	DIODE	1N4148 (TAPPING)	
DY05	D1N4148---	DIODE	1N4148 (TAPPING)	
DY06	D1N4148---	DIODE	1N4148 (TAPPING)	
DY07	D1N4148---	DIODE	1N4148 (TAPPING)	
L202	5CPZ150K02	COIL PEAKING	15UH K (AXIAL 3.5MM)	
L203	5CPZ220K02	COIL PEAKING	22UH K (AXIAL 3.5MM)	
L501	5CPZ100K04	COIL PEAKING	10UH 10.5MM K (LAL04TB)	
L502	5CPZ100K04	COIL PEAKING	10UH 10.5MM K (LAL04TB)	
L503	5CPZ100K04	COIL PEAKING	10UH 10.5MM K (LAL04TB)	
L504	5CPZ100K02	COIL PEAKING	10UH K (AXIAL 3.5MM)	
L505	5CPZ829K02	COIL PEAKING	8.2UH K (AXIAL 3.5MM)	

LOC	PART CODE	PART NAME	PART TYPE	REMARK
L506	5CPZ569K02	COIL PEAKING	5.6UH K (AXIAL 3.5MM)	
L601	5CPZ100K04	COIL PEAKING	10UH 10.5MM K (LAL04TB)	
L602	5MC0000100	COIL BEAD	BI-3857	
L603	5MC0000100	COIL BEAD	BI-3857	
L702	5CPZ101K04	COIL PEAKING	100UH K (AXIAL 10.5MM)	
L703	5CPZ689K02	COIL PEAKING	6.8UH K (AXIAL 3.5MM)	
LA01	5CPZ100K04	COIL PEAKING	10UH 10.5MM K (LAL04TB)	
LL03	5CPZ101K04	COIL PEAKING	100UH K (AXIAL 10.5MM)	
LY01	5CPZ101K04	COIL PEAKING	100UH K (AXIAL 10.5MM)	
LY02	5CPZ101K04	COIL PEAKING	100UH K (AXIAL 10.5MM)	
LY03	5CPZ101K04	COIL PEAKING	100UH K (AXIAL 10.5MM)	
LY04	5CPZ101K04	COIL PEAKING	100UH K (AXIAL 10.5MM)	
LY05	5CPZ101K04	COIL PEAKING	100UH K (AXIAL 10.5MM)	
LY06	5CPZ560K02	COIL PEAKING	56UH K (AXIAL 3.5MM)	
LY07	5CPZ121K02	COIL PEAKING	120UH K (AXIAL 3.5MM)	
LY08	5CPZ150K02	COIL PEAKING	15UH K (AXIAL 3.5MM)	
LY10	5CPZ101K04	COIL PEAKING	100UH K (AXIAL 10.5MM)	
LY11	5CPZ270K02	COIL PEAKING	27UH K (AXIAL 3.5MM)	
LY13	5CPZ221K02	COIL PEAKING	220UH 3.5MM K (LAL02TB)	
R101	RD-2Z159J-	R CARBON FILM	1/2 1.5 OHM J	
R102	RD-AZ822J-	R CARBON FILM	1/6 8.2K OHM J	
R112	RD-AZ122J-	R CARBON FILM	1/6 1.2K OHM J	
R122	RD-AZ221J-	R CARBON FILM	1/6 220 OHM J	
R203	RD-AZ104J-	R CARBON FILM	1/6 100K OHM J	
R218	RD-AZ223J-	R CARBON FILM	1/6 22K OHM J	
R219	RD-AZ822J-	R CARBON FILM	1/6 8.2K OHM J	
R227	RD-AZ470J-	R CARBON FILM	1/6 47 OHM J	
R504	RD-4Z109J-	R CARBON FILM	1/4 1 OHM J	
R505	RD-4Z100J-	R CARBON FILM	1/4 10 OHM J	
R506	RD-4Z109J-	R CARBON FILM	1/4 1 OHM J	
R508	RD-4Z271J-	R CARBON FILM	1/4 270 OHM J	
R516	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
R517	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
R525	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
R529	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
R540	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
R549	RD-AZ221J-	R CARBON FILM	1/6 220 OHM J	
R550	RD-AZ221J-	R CARBON FILM	1/6 220 OHM J	
R551	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	

LOC	PART CODE	PART NAME	PART TYPE	REMARK
R563	RD-AZ473J-	R CARBON FILM	1/6 47K OHM J	
R572	RD-AZ822J-	R CARBON FILM	1/6 8.2K OHM J	
R573	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
R576	RD-AZ122J-	R CARBON FILM	1/6 1.2K OHM J	
R601	RD-4Z221J-	R CARBON FILM	1/4 220 OHM J	
R602	RD-4Z221J-	R CARBON FILM	1/4 220 OHM J	
R701	RD-4Z100J-	R CARBON FILM	1/4 10 OHM J	
R708	RD-AZ121J-	R CARBON FILM	1/6 120 OHM J	
R709	RD-AZ121J-	R CARBON FILM	1/6 120 OHM J	
R710	RD-AZ121J-	R CARBON FILM	1/6 120 OHM J	
R713	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
R720	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
R721	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
R728	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	
R737	RD-AZ823J-	R CARBON FILM	1/6 82K OHM J	
RA01	RD-AZ222J-	R CARBON FILM	1/6 2.2K OHM J	
RL01	RD-AZ223J-	R CARBON FILM	1/6 22K OHM J	
RL10	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
RL11	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
RN04	RD-AZ221J-	R CARBON FILM	1/6 220 OHM J	
RN05	RD-AZ221J-	R CARBON FILM	1/6 220 OHM J	
RN06	RD-AZ223J-	R CARBON FILM	1/6 22K OHM J	
RN08	RD-AZ432J-	R CARBON FILM	1/6 4.3K OHM J	
RN12	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
RN13	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
RN14	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
RN15	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
RN19	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
RN20	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	
RN21	RD-AZ301J-	R CARBON FILM	1/6 300 OHM J	
RN22	RD-AZ301J-	R CARBON FILM	1/6 300 OHM J	
RN25	RD-AZ273J-	R CARBON FILM	1/6 27K OHM J	
RN26	RD-AZ273J-	R CARBON FILM	1/6 27K OHM J	
RN29	RD-AZ182J-	R CARBON FILM	1/6 1.8K OHM J	
RN33	RD-AZ153J-	R CARBON FILM	1/6 15K OHM J	
RN35	RD-AZ221J-	R CARBON FILM	1/6 220 OHM J	
RN36	RD-AZ221J-	R CARBON FILM	1/6 220 OHM J	
RN38	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
RN39	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	

LOC	PART CODE	PART NAME	PART TYPE	REMARK
RN43	RD-AZ332J-	R CARBON FILM	1/6 3.3K OHM J	
RN44	RD-AZ332J-	R CARBON FILM	1/6 3.3K OHM J	
RN46	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
RN47	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
RN48	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
RN56	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	
RN57	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	
RN58	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	
RN59	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	
RN63	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	
RQ01	RD-AZ561J-	R CARBON FILM	1/6 560 OHM J	
RQ02	RD-AZ561J-	R CARBON FILM	1/6 560 OHM J	
RQ03	RD-AZ561J-	R CARBON FILM	1/6 560 OHM J	
RQ12	RD-AZ112J-	R CARBON FILM	1/6 1.1K OHM J	
RQ15	RD-AZ221J-	R CARBON FILM	1/6 220 OHM J	
RY05	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
RY06	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
RY12	RD-AZ182J-	R CARBON FILM	1/6 1.8K OHM J	
RY21	RD-AZ229J-	R CARBON FILM	1/6 2.2 OHM J	
RY22	RD-AZ229J-	R CARBON FILM	1/6 2.2 OHM J	
RY27	RD-AZ513J-	R CARBON FILM	1/6 51K OHM J	
RY28	RD-AZ333J-	R CARBON FILM	1/6 33K OHM J	
RY31	RD-AZ513J-	R CARBON FILM	1/6 51K OHM J	
RY46	RD-AZ391J-	R CARBON FILM	1/6 390 OHM J	
RY47	RD-AZ561J-	R CARBON FILM	1/6 560 OHM J	
RY48	RD-AZ820J-	R CARBON FILM	1/6 82 OHM J	
RY54	RD-AZ122J-	R CARBON FILM	1/6 1.2K OHM J	
RY58	RD-AZ151J-	R CARBON FILM	1/6 150 OHM J	
RY60	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	
RY73	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
RY76	RD-AZ332J-	R CARBON FILM	1/6 3.3K OHM J	
ZZ300	PTPWMSA531	PCB POWER MANUAL AS	DVT-14F6LA	
C415	CMYE2D474J	C MYLAR	200V PU 0.47MF J	⚠
C416	CMYH3C752J	C MYLAR	1.6KV BUP 7500PF J	⚠
C801	CL1JB3474K	C LINE ACROSS	AC250V 0.47MF U/C/SNDF/SV	
C808	CH1FFF472M	C CERA AC	AC400V 4700PF F DE7150F	⚠
C819	CEYN2G181P	C ELECTRO	400V LHS 180MF (25X35)	⚠
D811	DBYW95C---	DIODE	BYW95C (TAPPING)	
D812	DBYW95C---	DIODE	BYW95C (TAPPING)	⚠

LOC	PART CODE	PART NAME	PART TYPE	REMARK
D815	DBYW95C---	DIODE	BYW95C (TAPPING)	
D819	1UPC574J--	IC	UPC574J	
F801	5FSCB4022R	FUSE CERA	SEMKO F4AH 4A 250V MF51	⚠
I301	PTA2SW4617	HEAT SINK ASS`Y	1TDA8356-- + 7174301011	
I301	1TDA8356--	IC VERTICAL	TDA8356	
I301A	4857024617	HEAT SINK	AL EX	
I301B	7174301011	SCREW TAPPTITE	TT2 RND 3X10 MFZN	
I801	1STRS5707-	IC POWER	STR-S5707	
I801A	4857024602	HEAT SINK	AL EX (2160AS)	
I801B	7174301011	SCREW TAPPTITE	TT2 RND 3X10 MFZN	
I802	PTB2SW7301	HEAT SINK ASS`Y	1K1A7812P1 + 7174301011	
I802	1K1A7812P1	IC REGULATOR	KIA7812PI	
I802A	4857027301	HEAT SINK	AL 6063S-T5	
I802B	7174301011	SCREW TAPPTITE	TT2 RND 3X10 MFZN	
I804	1K1A7812P1	IC REGULATOR	KIA7812PI	
I804B	7174301011	SCREW TAPPTITE	TT2 RND 3X10 MFZN	
I805	1K1A7806P1	IC REGULATOR	KIA7806PI	
I805B	7174301011	SCREW TAPPTITE	TT2 RND 3X10 MFZN	
I806	1K1A7806P1	IC REGULATOR	KIA7806PI	
I807	1T0P210---	IC STAND BY	TOP210	
I901	1TDA6106Q-	IC AMP	TDA6106Q	
I902	1TDA6106Q-	IC AMP	TDA6106Q	
I903	1TDA6106Q-	IC AMP	TDA6106Q	
L404	58H0000018	COIL H-LINEARITY	L-125 (125UH)	
L801	5PLF24A1--	FILTER LINE	LF-24A1	⚠
P401	4859240020	CONN WAFER	YFW500-05	
P805	4859235320	CONN WAFER	YW025-10	
P906	4859249120	CONN WAFER	YF254-05	
PA904	4850703S19	CONN AS	YH025-03+YST025+ULW=300	
PWC1	4859903110	CORD POWER AS	CW4232+BL102NG+TUBE=2500	⚠
A000	4859903511	CORD POWER	CW4232 H03VVH2-F=2250	
Q402	T2SD2499--	TR	2SD2499	⚠
Q402A	4857024510	HEAT SINK	AL EX	
Q402B	7174301011	SCREW TAPPTITE	TT2 RND 3X10 MFZN	
R801	DEC180M290	POSISTOR	ECPCC180M290	⚠
R803	RX10T339J-	R CEMENT	10W 3.3 OHM J TRIPOD	
RLY1	5SC0202334	SW RELAY	DJ5D2-0(M)-0.25W	
RLY2	5SC0101003	SW RELAY	DG12D1-0(M)-II 1C-1P	

LOC	PART CODE	PART NAME	PART TYPE	REMARK
SCT01	4859303030	SOCKET CRT	ISMM03S	⚠
T401	50D0000022	TRANS DRIVE	HD-15D	⚠
T402	50H0000177	FBT	HST1142.5057	⚠
T801	50M4042A2J	TRANS SMPS	TSM-4042A2	⚠
T802	50MST22A3J	TRANS SMPS	ST-22A3	⚠
ZZ200	PTPWJ0A531	PCB POWER ODD SHAPE	DVT-14F6LA	
C307	CEXF2C470V	C ELECTRO	160V RSS 47MF (13X25) TP	
C308	CEXF1E471V	C ELECTRO	25V RSS 470MF (10X16) TP	
C406	CCXB3D471K	C CERA	2KV B 470PF K (TAPPING)	
C409	CEXF2C330V	C ELECTRO	160V RSS 33MF (13X20) TP	
C410	CEXF2C339V	C ELECTRO	160V RSS 3.3MF (8X16) TP	
C413	CEXF2E330V	C ELECTRO	250V RSS 33MF (13X25) TP	
C810	CCXB3D681K	C CERA	2KV B 680PF K (TAPPING)	
C816	CEXF2A100V	C ELECTRO	100V RSS 10MF (6.3X11) TP	
C817	CEXF1E221C	C ELECTRO	25V RUS 220MF (8X11.5) TP	
C818	CEXF1E331V	C ELECTRO	25V RSS 330MF (10X12.5)TP	
C820	CEXF2C101V	C ELECTRO	160V RSS 100MF (16X25) TP	
C822	CEXF1C471V	C ELECTRO	16V RSS 470MF (10X12.5)TP	
C823	CEXF2G220V	C ELECTRO	400V RSS 22MF (16X25) TP	
C825	CEXF1C102V	C ELECTRO	16V RSS 1000MF (10X20) TP	
C827	CEXF1E471V	C ELECTRO	25V RSS 470MF (10X16) TP	
C828	CEXF1E471V	C ELECTRO	25V RSS 470MF (10X16) TP	
C832	CEXF1C471V	C ELECTRO	16V RSS 470MF (10X12.5)TP	
C833	CEXF1C102V	C ELECTRO	16V RSS 1000MF (10X20) TP	
C835	CMXE2J222J	C MYLAR	PL 630V 2200PF J	
C911	CCXB3D102K	C CERA	2KV B 1000PF K (TAPPING)	
C913	CEXF1C331V	C ELECTRO	16V RSS 330MF (8X11.5) TP	
ZZ200	PTPWJBA531	PCB POWER M-10 AS	DVT-14F6LA	
P405	485923182S	CONN WAFER	YW025-05 (STICK)	
P406	485923182S	CONN WAFER	YW025-05 (STICK)	
P801A	4857417500	TERM PIN	DA-IB0214(D2.3/DY PIN)	
P801B	4857417500	TERM PIN	DA-IB0214(D2.3/DY PIN)	
P802A	4857417500	TERM PIN	DA-IB0214(D2.3/DY PIN)	
P802B	4857417500	TERM PIN	DA-IB0214(D2.3/DY PIN)	
P803	485923162S	CONN WAFER	YW025-03 (STICK)	
P901	485923202S	CONN WAFER	YW025-07 (STICK)	
P904	485923162S	CONN WAFER	YW025-03 (STICK)	
P905	4857417500	TERM PIN	DA-IB0214(D2.3/DY PIN)	
R306	RS02Z271JS	R M-OXIDE FILM	2W 270 OHM J SMALL	

LOC	PART CODE	PART NAME	PART TYPE	REMARK
R401	RS02Z912JS	R M-OXIDE FILM	2W 9.1K OHM J SMALL	
R402	RS02Z912JS	R M-OXIDE FILM	2W 9.1K OHM J SMALL	
R403	RS02Z912JS	R M-OXIDE FILM	2W 9.1K OHM J SMALL	
R407	RS02Z512JS	R M-OXIDE FILM	2W 5.1K OHM J SMALL	
R409	RS02Z512JS	R M-OXIDE FILM	2W 5.1K OHM J SMALL	
R419	RS01Z129J-	R M-OXIDE FILM	1W 1.2 OHM J (TAPPING)	⚠
R420	RS01Z102J-	R M-OXIDE FILM	1W 1K OHM J (TAPPING)	
R804	RS02Z473JS	R M-OXIDE FILM	2W 47K OHM J SMALL	
R805	RS02Z562JS	R M-OXIDE FILM	2W 5.6K OHM J SMALL	
R816	RS02Z470JS	R M-OXIDE FILM	2W 47 OHM J SMALL	
R817	RF02Z338J-	R FUSIBLE	2W 0.33 OHM J (TAPPING)	⚠
R823	RS02Z562JS	R M-OXIDE FILM	2W 5.6K OHM J SMALL	
R830	RS02Z109JS	R M-OXDIE FILM	2W 1 OHM J SMALL	
WP01	4857417500	TERM PIN	DA-IB0214(D2.3/DY PIN)	
ZZ200	PTPWJRA531	PCB POWER RADIAL AS	DVT-14F6LA	
C302	CCXB1H102K	C CERA	50V B 1000PF K (TAPPING)	
C305	CCXB2H471K	C CERA	500V B 470PF K (TAPPING)	
C306	CCXB2H102K	C CERA	500V B 1000PF K (TAPPING)	
C310	CMXM2A104J	C MYLAR	100V 0.1MF J (TP)	
C401	CCXB2H472K	C CERA	500V B 4700PF K (TAPPING)	
C402	CCXB2H221K	C CERA	500V B 220PF K (TAPPING)	
C403	CCXB2H472K	C CERA	500V B 4700PF K (TAPPING)	
C404	CCXB2H102K	C CERA	500V B 1000PF K (TAPPING)	
C407	CXSL2H470J	C CERA	500V SL 47PF J (TAPPING)	
C418	CMXM2A104J	C MYLAR	100V 0.1MF J (TP)	
C803	CCXF3A472Z	C CERA	1KV F 4700PF Z (T)	
C804	CCXF3A472Z	C CERA	1KV F 4700PF Z (T)	
C813	CCXF1H103Z	C CERA	50V F 0.01MF Z (TAPPING)	
C824	CEXF1H470V	C ELECTRO	50V RSS 47MF (6.3X11) TP	
C826	CEXF1E101V	C ELECTRO	25V RSS 100MF (6.3X11) TP	
C829	CEXF1E101C	C ELECTRO	25V RUS 100MF (6.3X11) TP	
C830	CEXF1E221V	C ELECTRO	25V RSS 220MF (8X11.5) TP	
C840	CEXF1E470V	C ELECTRO	25V RSS 47MF (5X11) TP	
C841	CCXF3A472Z	C CERA	1KV F 4700PF Z (T)	
C842	CCXF3A472Z	C CERA	1KV F 4700PF Z (T)	
C904	CMXL2E104K	C MYLAR	250V MEU 0.1MF K	
C905	CMXL2E104K	C MYLAR	250V MEU 0.1MF K	
C907	CCXB1H561K	C CERA	50V B 560PF K (TAPPING)	
C908	CCXB1H561K	C CERA	50V B 560PF K (TAPPING)	

LOC	PART CODE	PART NAME	PART TYPE	REMARK
C909	CCXB1H561K	C CERA	50V B 560PF K (TAPPING)	
C910	CCXF1H473Z	C CERA	50V F 0.047MF Z (TAPPING)	
F801A	4857415001	CLIP FUSE	PFC5000-0702	
F801B	4857415001	CLIP FUSE	PFC5000-0702	
L403	58C0000096	COIL CHOKE	610G0233(470K)	
Q301	TKTC3198Y-	TR	KTC3198Y	
Q401	TKTC3207--	TR	KTC3207 (TP)	⚠
Q403	TKTC3202Y-	TR	KTC3202Y (TP)	
Q803	TKTC3202Y-	TR	KTC3202Y (TP)	
Q901	TKTA1266Y-	TR	KTA1266Y (TP)	
ZZ200	PTPWJAA531	PCB POWER AXIAL AS	DVT-14F6LA	
A001	4859810711	PCB POWER	330X123(330X246/2)D1B	
C301	CCZB1H102K	C CERA AXIAL	50V B 1000PF K	
C309	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	
C807	CCZB1H102K	C CERA AXIAL	50V B 1000PF K	
C836	CBZF1H104Z	C CERA AXIAL	50V F 0.1MF Z	
C837	CBZF1H104Z	C CERA AXIAL	50V F 0.1MF Z	
C838	CBZF1H104Z	C CERA AXIAL	50V F 0.1MF Z	
C846	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	
D301	D1N4937---	DIODE	1N4937 (TAPPING)	
D302	D1N4937---	DIODE	1N4937 (TAPPING)	
D401	D1N4937---	DIODE	1N4937 (TAPPING)	
D402	D1N4937---	DIODE	1N4937 (TAPPING)	
D403	D1N4148---	DIODE	1N4148 (TAPPING)	
D404	D1N4937---	DIODE	1N4937 (TAPPING)	
D405	D1N4148---	DIODE	1N4148 (TAPPING)	
D406	D1N4148---	DIODE	1N4148 (TAPPING)	
D801	D1S1888---	DIODE	1S1888 (TAPPING)	
D802	D1S1888---	DIODE	1S1888 (TAPPING)	
D803	D1S1888---	DIODE	1S1888 (TAPPING)	
D804	D1S1888---	DIODE	1S1888 (TAPPING)	
D807	D1N4937---	DIODE	1N4937 (TAPPING)	
D808	D1N4937---	DIODE	1N4937 (TAPPING)	
D809	DBYV95C---	DIODE	BYV95C (TAPPING)	
D810	D1N4937---	DIODE	1N4937 (TAPPING)	
D813	DBYV95C---	DIODE	BYV95C (TAPPING)	
D814	DBYV95C---	DIODE	BYV95C (TAPPING)	
D822	DRU1P-----	DIODE	RU 1P (TAPPING)	
D823	D1N4148---	DIODE	1N4148 (TAPPING)	

LOC	PART CODE	PART NAME	PART TYPE	REMARK
D824	DR2KY-----	DIODE AVALANCHE	R 2-KY (TAPPING)	
D825	D1S1888---	DIODE	1S1888 (TAPPING)	
D826	D1S1888---	DIODE	1S1888 (TAPPING)	
D827	D1S1888---	DIODE	1S1888 (TAPPING)	
D828	D1S1888---	DIODE	1S1888 (TAPPING)	
D830	D1N4148---	DIODE	1N4148 (TAPPING)	
D831	DBYV95C---	DIODE	BYV95C (TAPPING)	
D901	D1N4148---	DIODE	1N4148 (TAPPING)	
D902	D1N4148---	DIODE	1N4148 (TAPPING)	
D903	D1N4148---	DIODE	1N4148 (TAPPING)	
D904	D1N4148---	DIODE	1N4148 (TAPPING)	
L301	5CPZ100K04	COIL PEAKING	10UH 10.5MM K (LAL04TB)	
L302	5CPZ100K04	COIL PEAKING	10UH 10.5MM K (LAL04TB)	
L401	5CPZ109M02	COIL PEAKING	1UH M (AXIAL 3.5MM)	
L802	5MC0000100	COIL BEAD	BI-3857	
L803	5MC0000100	COIL BEAD	BI-3857	
L805	5MC0000100	COIL BEAD	BI-3857	
R301	RD-4Z182J-	R CARBON FILM	1/4 1.8K OHM J	
R302	RD-4Z472J-	R CARBON FILM	1/4 4.7K OHM J	
R304	RD-4Z109J-	R CARBON FILM	1/4 1 OHM J	
R310	RD-4Z471J-	R CARBON FILM	1/4 470 OHM J	
R311	RD-4Z472J-	R CARBON FILM	1/4 4.7K OHM J	
R312	RD-AZ223J-	R CARBON FILM	1/6 22K OHM J	
R313	RD-4Z472J-	R CARBON FILM	1/4 4.7K OHM J	
R314	RD-4Z473J-	R CARBON FILM	1/4 47K OHM J	
R406	RD-4Z562J-	R CARBON FILM	1/4 5.6K OHM J	
R408	RD-4Z102J-	R CARBON FILM	1/4 1K OHM J	
R410	RD-2Z104J-	R CARBON FILM	1/2 100K OHM J	
R412	RD-2Z273J-	R CARBON FILM	1/2 27K OHM J	
R413	RD-4Z303J-	R CARBON FILM	1/4 30K OHM J	
R415	RD-2Z224J-	R CARBON FILM	1/2 220K OHM J	
R418	RD-2Z103J-	R CARBON FILM	1/2 10K OHM J	
R421	RD-4Z472J-	R CARBON FILM	1/4 4.7K OHM J	
R422	RD-AZ152J-	R CARBON FILM	1/6 1.5K OHM J	
R807	RD-4Z330J-	R CARBON FILM	1/4 33 OHM J	
R808	RD-4Z222J-	R CARBON FILM	1/4 2.2K OHM J	
R810	RD-4Z104J-	R CARBON FILM	1/4 100K OHM J	
R811	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
R812	RD-2Z224J-	R CARBON FILM	1/2 220K OHM J	

LOC	PART CODE	PART NAME	PART TYPE	REMARK
R813	RD-2Z224J-	R CARBON FILM	1/2 220K OHM J	
R815	RC-2Z565J-	R CARBON COMP	1/2 5.6M OHM J	⚠
R819	RD-2Z104J-	R CARBON FILM	1/2 100K OHM J	
R831	RD-4Z270J-	R CARBON FILM	1/4 27 OHM J	
R833	RD-4Z472J-	R CARBON FILM	1/4 4.7K OHM J	
R834	RD-4Z101J-	R CARBON FILM	1/4 100 OHM J	
R836	RD-4Z680J-	R CARBON FILM	1/4 68 OHM J	
R843	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	
R901	RD-AZ302J-	R CARBON FILM	1/6 3K OHM J	
R902	RD-AZ302J-	R CARBON FILM	1/6 3K OHM J	
R903	RD-AZ302J-	R CARBON FILM	1/6 3K OHM J	
R904	RD-AZ202J-	R CARBON FILM	1/6 2K OHM J	
R905	RD-AZ202J-	R CARBON FILM	1/6 2K OHM J	
R906	RD-AZ202J-	R CARBON FILM	1/6 2K OHM J	
R907	RD-4Z104J-	R CARBON FILM	1/4 100K OHM J	
R908	RD-4Z104J-	R CARBON FILM	1/4 100K OHM J	
R909	RD-4Z104J-	R CARBON FILM	1/4 100K OHM J	
R910	RD-2Z152J-	R CARBON FILM	1/2 1.5K OHM J	
R911	RD-2Z152J-	R CARBON FILM	1/2 1.5K OHM J	
R912	RD-2Z152J-	R CARBON FILM	1/2 1.5K OHM J	
R913	RD-AZ223J-	R CARBON FILM	1/6 22K OHM J	
R914	RD-AZ152J-	R CARBON FILM	1/6 1.5K OHM J	

12. THE DIFFERENT PARTS FOR SIZE

LOC.	PART NAME	PART CODE	PART TYPE	DVT-14F6PA	DVT-20F6PA
ZZ131	CRT GROUND AS	48519A4610	1401H-1015-1P	○	
		48519A5010	2001H-1015-1P		○
M201	MASK FRONT	4852062601	HIPS BK		○
		4852064301	HIPS BK	○	
M211	COVER BACK	4852149321	HIPS BK	○	
		4852149801	HIPS BK		○
M601B	SCREW CRT FIXING AS	4856013301	30X140 YL	○	
		4856013302	30X190 BK		○
M622	WASHER RUBBER	4856214902	CR T2.0	○	
M621		4856215402	CR		○
M782	CLOTH BLACK	4857817611	FLET T0.7 L=200	○	
		4857817630	FLET T0.7 L=400		○
M801	BOX CARTON	4858035800	SW-3	○	
		4858038300	DW		○
M811	PAD	4858182200	EPS 14F6	○	
		4858182300	EPS 20F6		○
M822	BAG PE	4858215000	FOAM LEX 0.5T*1200*1150		○
		4858215700	1000X950	○	
V901	CRT BARE	48A96414P1	A34JLL90X	○	
		48A96420P1	A48JLL90X		○
V01	COIL DY	58D1000045	ODY-M2002		○
		58D1000046	ODY-M1401	○	
ZZ132	COIL DEGAUSSING	58G0000084	DC-1450	○	
		58G0000086	DC-2050		○
L404	COIL H-LINEARITY	58H0000016	L-102		○
		58H0000018	L-125	○	
C415	C MYLAR	CMYE2D364J	200V PU 0.36MF J		○
		CMYE2D474J	200V PU 0.47MF J	○	
ZZ120	COVER BACK AS	PTBCSHA570	DVT-14F6PA	○	
		PTBCSHC992	DVT-20F6PA		○
ZZ130	PACKING AS	PTPKCPA531	DVT-14F6LA	○	
		PTPKCPC850	DVT-20F6LA		○
ZZ140	CABINET AS	PTCACAA570	DVT-14F6PA	○	
		PTCACAC992	DVT-20F6PA		○
ZZ200	MASK FRONT AS	PTFMSJA570	DVT-14F6PA	○	
		PTFMSJC992	DVT-20F6PA		○
ZZ200	PCB MAIN RHU AS	PTMPJOA570	DVT-14F6PA	○	
		PTMPJOC992	DVT-20F6PA		○

LOC.	PART NAME	PART CODE	PART TYPE	DVT-14F6PA	DVT-20F6PA
ZZ200	PCB CHIP MOUNT AS	PTMPJ2A570	DVT-14F6PA	○	
		PTMPJ2C992	DVT-20F6PA		○
ZZ200	PCB MAIN AXIAL AS	PTMPJAA5	DVT-14F6PA	○	
		PTMPJAC992	DVT-20F6PA		○
ZZ200	PCB MAIN M-10 AS	PTMPJBA570	DVT-14F6PA	○	
		PTMPJBC992	DVT-20F6PA		
ZZ200	PCB MAIN RADIAL AS	PTMPJRA570	DVT-14F6PA	○	
		PTMPJRC992	DVT-20F6PA		
ZZ290	PCB MAIN MANUAL AS	PTMPMSA570	DVT-14F6PA	○	
		PTMPMSC992	DVT-20F6PA		○
ZZ200	PCB POWER ODD SHAPE AS	PTMPMSA570	DVT-14F6PA	○	
		PTMPMSC992	DVT-20F6PA		○
ZZ200	PCB POWER AXIAL AS	PTPWJAA570	DVT-14F6PA	○	
		PTPWJAC992	DVT-20F6PA		○
ZZ200	PCB POWER M-10 AS	PTPWJBA570	DVT-14F6PA	○	
		PTPWJBC992	DVT-20F6PA		○
ZZ200	PCB POWER RADIAL AS	PTPWJRA570	DVT-14F6PA	○	
		PTPWJRC992	DVT-20F6PA		○
ZZ200	PCB POWER MANUAL AS	PTPWMSA570	DVT-14F6PA	○	
		PTPWMSC992	DVT-20F6PA		○
V901	CRT AS	PTRTPWA531	DVT-14F6LA	○	
		PTRTPWC857	DVT-20F6HA		○
ZZ202	SPEAKER AS	PTSPPWA570	DVT-14F6PA	○	
		PTSPPWC992	DVT-20F6PA		○
R834	R CARBON FILM	RD-4Z101J-	1/4 100 OHM J	○	
		RD-4Z910J-	1/4 91 OHM J		○
R833	R CARBON FILM	RD-4Z472J-	1/4 4.7K OHM J	○	
		RD-4Z512J-	1/4 5.1K OHM J		○
R301	R CARBON FILM	RD-4Z182J-	1/4 1.8K OHM J	○	
		RD-4Z222J-	1/4 2.2K OHM J		○
R572	R CARBON FILM	RD-4Z682J-	1/4 6.8K OHM J		○
		RD-4Z822J-	1/4 8.2K OHM J	○	
R419	R M-OXIDE FILM	RS01Z129J-	1W 1.2 OHM J	○	
		RS01Z249J-	1W 2.4 OHM J		○

LOC.	PART	PAL B/G [HA] (WITHOUT SCART)	P/S-B/G, D/K [DA] (WITHOUT SCART	P/S-B/G, D/K [DA] (WITH SCART)	PAL B/G [FA] (WITH SCART)	PAL I [PA] (WITH SCART)	P/S-B/G [LA] (WITH SCART)
PWC1	CORD POWER AS	KKP560+BL102NG+T	CW4232 H03VVH2-	CW4232 H03VVH2-	CW4232 H03VVH2-	CW3222/240V 5A+	CW4232 H03VVH2-
C107	C ELECTRO	50V RSS 10MF	50V RSS 10MF	50V RSS 10MF	50V RSS 10MF	50V RSS 10MF	25V RSS 47MF
C226	C ELECTRO	50V RSS 10MF	50V RSS 10MF	50V RSS 10MF	50V RSS 10MF	50V RSS 10MF	25V RSS 47MF
C229	C ELECTRO	X	X	X	X	X	25V RSS 47MF
C231	C ELECTRO	X	X	X	X	X	50V RSS 4.7MF
C232	C ELECTRO	X	X	X	X	X	50V RSS 4.7MF
C545	C MYLAR	X	100V 0.1MF	100V 0.1MF	X	X	100V 0.1MF
C555	C MYLAR	X	50V EU 0.22MF	50V EU 0.22MF	X	X	50V EU 0.22MF
C558	C ELECTRO	X	25V RSS 47MF	25V RSS 47MF	X	X	25V RSS 47MF
C819	C ELECTRO	400V LHS 180MF	400V LHS 150MF	400V LHS 150MF	400V LHS 180MF	400V LHS 180MF	400V LHS 180MF
CC101	C CHIP CERA	X	X	X	X	X	50V CH 22PF J
CC203	C CHIP CERA	X	X	X	X	X	50V CH 22PF J
CC204	C CHIP CERA	X	X	X	X	X	50V CH 22PF J
CC211	C CHIP CERA	X	X	X	X	X	50V CH 82PF J
CC217	C CHIP CERA	X	X	X	X	X	50V X7R 1000PF
CC218	C CHIP CERA	X	X	X	X	X	50V X7R 1000PF
CC219	C CHIP CERA	50V CH 8PF D	50V CH 8PF D	50V CH 8PF D	50V CH 8PF D	50V CH 8PF D	X
CC222	C CHIP CERA	X	X	X	X	X	50V Y5V 0.1MF Z
CC504	C CHIP CERA	X	50V Y5V 0.1MF Z	50V Y5V 0.1MF Z	X	X	50V Y5V 0.1MF Z
CC530	C CHIP CERA	X	50V CH 150PF J	50V CH 150PF J	X	X	X
CC710	C CHIP CERA	X	X	X	X	X	50V CH 16PF J
CC718	C CHIP TANTAL	X	X	X	X	X	35V 0.47MF M 32
CCL01	C CHIP CERA	X	X	X	X	X	50V CH 22PF J
CCL02	C CHIP CERA	X	X	X	X	X	50V CH 15PF J
CCL03	C CHIP CERA	X	X	X	X	X	50V Y5V 0.01MF

LOC.	PART	PAL B/G [HA] (WITHOUT SCART)	P/S-B/G, D/K [DA] (WITHOUT SCART	P/S-B/G, D/K [DA] (WITH SCART)	PAL B/G [FA] (WITH SCART)	PAL I [PA] (WITH SCART)	P/S-B/G [LA] (WITH SCART)
CCL04	C CHIP CERA	X	X	X	X	X	50V Y5V 0.01MF
CCL05	C CHIP CERA	X	X	X	X	X	50V Y5V 0.1MF
CCL06	C CHIP CERA	X	X	X	X	X	50V Y5V 0.1MF
CCL08	C CHIP CERA	X	X	X	X	X	50V Y5V 0.01MF
CCL10	C CHIP TANTAL	X	X	X	X	X	50V CH 100PF J
CCL12	C CHIP CERA	X	X	X	X	X	50V X7R 0.033MF
CCL14	C CHIP CERA	X	X	X	X	X	50V X7R 0.047MF
CCL15	C CHIP CERA	X	X	X	X	X	50V Y5V 0.01MF
CCL16	C CHIP CERA	X	X	X	X	X	50V CH 82PF J
CCL17	C CHIP CERA	X	X	X	X	X	50V Y5V 0.01MF
CCL18	C CHIP CERA	X	X	X	X	X	50V X7R 0.047MF
CCL19	C CHIP CERA	X	X	X	X	X	50V Y5V 0.01MF
CCL20	C CHIP TANTAL	X	X	X	X	X	25V 4.7MF M 352
CCL21	C CHIP TANTAL	X	X	X	X	X	16V 2.2MF M 321
CCL26	C CHIP TANTAL	X	X	X	X	X	25V 1MF M 3216
CCL27	C CHIP TANTAL	X	X	X	X	X	25V 1MF M 3216
CCL29	C CHIP TANTAL	16V 10MF M 3528	16V 10MF M 3528	16V 10MF M 3528	16V 10MF M 3528	16V 10MF M 3528	X
CCL30	C CHIP TANTAL	X	X	X	X	X	25V 4.7MF M 352
CCL31	C CHIP CERA	X	X	X	X	X	50V CH 100PF J
CCL34	C CHIP CERA	X	X	X	X	X	50V Y5V 0.01MF
CCL35	C CHIP CERA	X	X	X	X	X	50V Y5V 0.01MF
CCL36	C CHIP TANTAL	X	X	X	X	X	16V 10MF M 3528
CL07	C CERA	X	X	X	X	X	25V F 0.01MF Z
CL13	C CERA	X	X	X	X	X	25V F 0.01MF Z
CL22	C ELECTRO	X	X	X	X	X	16V RSM 47MF

LOC.	PART	PAL B/G [HA] (WITHOUT SCART)	P/S-B/G, D/K [DA] (WITHOUT SCART	P/S-B/G, D/K [DA] (WITH SCART)	PAL B/G [FA] (WITH SCART)	PAL I [PA] (WITH SCART)	P/S-B/G [LA] (WITH SCART)
CL23	C ELECTRO	X	X	X	X	X	16V RSM 47MF
D101	DIODE	X	X	X	X	X	1S2186
D102	DIODE	X	X	X	X	X	1S2186
D108	DIODE	X	X	X	X	X	BB909A
D109	DIODE ZENER	X	X	X	X	X	UZ-5.1BM
D110	DIODE ZENER	X	X	X	X	X	UZ-5.1BM
DL01	DIODE	X	X	X	X	X	1S2186
DL02	DIODE	X	X	X	X	X	1S2186
I201	IC	TDA98002	TDA98002	TDA98002	TDA98002	TDA98002	TDA9802
I501	IC VIDEO PROC	TDA8374A/N3	TDA8374A/N3	TDA8374A/N3	TDA8374A/N3	TDA8374A/N3	TDA8374/N3
I503	IC	X	TDA8395	TDA8395	X	X	TDA8395
I504	IC	X	X	TC4053BP	TC4053BP	TC4053BP	TC4053BP
IL01	IC SIF	X	X	X	X	X	STV8225
IL02	IC SIF	X	X	X	X	X	STV8225
IY03	IC SECAM.L	X	X	X	X	X	TA1238N
J010	WIRE COPPER	X	X	AWG22 1/0.65 TI	AWG22 1/0.65 TI	AWG22 1/0.65 TI	AWG22 1/0.65 TI
J014	WIRE COPPER	X	X	AWG22 1/0.65 TI	AWG22 1/0.65 TI	AWG22 1/0.65 TI	AWG22 1/0.65 TI
J029	WIRE COPPER	X	X	X	X	X	AWG22 1/0.65 TI
J032	WIRE COPPER	X	X	X	X	X	AWG22 1/0.65 TI
J039	WIRE COPPER	X	X	X	X	X	AWG22 1/0.65 TI
J050	WIRE COPPER	X	X	X	X	X	AWG22 1/0.65 TI
J053	WIRE COPPER	X	X	AWG22 1/0.65 TI	AWG22 1/0.65 TI	AWG22 1/0.65 TI	AWG22 1/0.65 TI
J054	WIRE COPPER	X	X	AWG22 1/0.65 TI	AWG22 1/0.65 TI	AWG22 1/0.65 TI	AWG22 1/0.65 TI
J057	WIRE COPPER	X	X	AWG22 1/0.65 TI	AWG22 1/0.65 TI	AWG22 1/0.65 TI	AWG22 1/0.65 TI
J060	WIRE COPPER	X	X	AWG22 1/0.65 TI	AWG22 1/0.65 TI	AWG22 1/0.65 TI	AWG22 1/0.65 TI

LOC.	PART	PAL B/G [HA] (WITHOUT SCART)	P/S-B/G, D/K [DA] (WITHOUT SCART	P/S-B/G, D/K [DA] (WITH SCART)	PAL B/G [FA] (WITH SCART)	PAL I [PA] (WITH SCART)	P/S-B/G [LA] (WITH SCART)
J063	WIRE COPPER	X	X	AWG22 1/0.65 TI	AWG22 1/0.65 TI	AWG22 1/0.65 TI	AWG22 1/0.65 TI
J065	WIRE COPPER	X	X	AWG22 1/0.65 TI	AWG22 1/0.65 TI	AWG22 1/0.65 TI	AWG22 1/0.65 TI
J085	WIRE COPPER	X	X	X	X	X	AWG22 1/0.65 TI
J103	WIRE COPPER	AWG22 1/0.65 TI	AWG22 1/0.65 TI	AWG22 1/0.65 TI	AWG22 1/0.65 TI	AWG22 1/0.65 TI	X
J113	WIRE COPPER	X	X	X	X	X	AWG22 1/0.65 TI
J114	WIRE COPPER	X	X	X	X	X	AWG22 1/0.65 TI
J115	WIRE COPPER	X	X	X	X	X	AWG22 1/0.65 TI
J132	WIRE COPPER	X	X	AWG22 1/0.65 TI	AWG22 1/0.65 TI	AWG22 1/0.65 TI	AWG22 1/0.65 TI
J179	WIRE COPPER	X	X	X	X	X	AWG22 1/0.65 TI
J188	WIRE COPPER	X	X	X	X	X	AWG22 1/0.65 TI
J219	WIRE COPPER	X	X	X	X	X	AWG22 1/0.65 TI
J238	WIRE COPPER	X	X	X	X	X	AWG22 1/0.65 TI
J254	WIRE COPPER	X	X	AWG22 1/0.65 TI	AWG22 1/0.65 TI	AWG22 1/0.65 TI	AWG22 1/0.65 TI
J269	WIRE COPPER	X	X	X	X	X	AWG22 1/0.65 TI
J274	WIRE COPPER	X	X	X	X	X	AWG22 1/0.65 TI
J280	WIRE COPPER	X	X	AWG22 1/0.65 TI	AWG22 1/0.65 TI	AWG22 1/0.65 TI	AWG22 1/0.65 TI
J289	WIRE COPPER	X	X	X	X	X	AWG22 1/0.65 TI
J295	WIRE COPPER	X	X	X	X	X	AWG22 1/0.65 TI
JS01	SOCKET RGB	X	X	SR-21A1 (ANGLE	SR-21A1 (ANGLE	SR-21A1 (ANGLE	SR-21A1 (ANGLE
LL03	COIL PEAKING	X	X	X	X	X	100UH K (04TYPE)
LY02	COIL PEAKING	X	X	X	X	X	100UH K (04TYPE)
QC201	TR CHIP	X	X	X	X	X	KTC3881
QC202	TR CHIP	X	X	X	X	X	2SC1623-L6/T2B
QC203	TR CHIP	X	X	X	X	X	2SC1623-L6/T2B
QC204	TR CHIP	X	X	X	X	X	2SC1623-L6/T2B

LOC.	PART	PAL B/G [HA] (WITHOUT SCART)	P/S-B/G, D/K [DA] (WITHOUT SCART	P/S-B/G, D/K [DA] (WITH SCART)	PAL B/G [FA] (WITH SCART)	PAL I [PA] (WITH SCART)	P/S-B/G [LA] (WITH SCART)
QC511	TR CHIP	X	X	2SA812-T2B	2SA812-T2B	2SA812-T2B	2SA812-T2B
QC702	TR CHIP	X	X	X	X	X	2SC1623-L6/T2B
QC703	TR CHIP	X	X	2SC1623-L6/T2B	2SC1623-L6/T2B	2SC1623-L6/T2B	2SC1623-L6/T2B
QC704	TR CHIP	X	X	X	X	X	2SC1623-L6/T2B
QCL01	TR CHIP	X	X	X	X	X	KTC3881
QCL02	TR CHIP	X	X	X	X	X	2SC1623-L6/T2B
QCL03	TR CHIP	X	X	X	X	X	2SC1623-L6/T2B
QCL05	TR CHIP	X	X	X	X	X	2SC1623-L6/T2B
QCL07	TR CHIP	X	X	X	X	X	2SC1623-L6/T2B
R121	R M-OXIDE FIL	2W 30 OHM J	2W 30 OHM J	2W 30 OHM J	2W 30 OHM J	2W 30 OHM J	2W 20 OHM J
R203	R CARBON FILM	X	X	X	X	X	1/6 100K OHM J
R218	R CARBON FILM	X	X	X	X	X	1/6 22K OHM J
R227	R CARBON FILM						1/6 47 OHM J
R240	R SEMI FIXED						RH0638C 10K OHM
R505	R CARBON FILM	X	1/4 10 OHM J	1/4 10 OHM J	X	X	1/4 10 OHM J
R525	R CARBON FILM			1/6 1K OHM J	1/6 1K OHM J	1/6 1K OHM J	1/6 1K OHM J
R540	R CARBON FILM	X	X	1/6 10K OHM J	1/6 10K OHM J	1/6 10K OHM J	1/6 10K OHM J
R563	R CARBON FILM	X	X	1/6 47K OHM J	1/6 47K OHM J	1/6 47K OHM J	1/6 47K OHM J
R738	R M-OXIDE FIL	2W 33 OHM J	2W 33 OHM J	2W 33 OHM J	2W 33 OHM J	2W 33 OHM J	2W 27 OHM J
RC209	R CHIP	X	X	X	X	X	1/10 100K OHM J
RC210	R CHIP	X	X	X	X	X	1/10 15K OHM J
RC211	R CHIP	X	X	X	X	X	1/10 2.2K OHM J
RC213	R CHIP	X	X	X	X	X	1/10 10K OHM J
RC214	R CHIP	X	X	X	X	X	1/10 10K OHM J
RC215	R CHIP	X	X	X	X	X	1/10 10K OHM J

LOC.	PART	PAL B/G [HA] (WITHOUT SCART)	P/S-B/G, D/K [DA] (WITHOUT SCART	P/S-B/G, D/K [DA] (WITH SCART)	PAL B/G [FA] (WITH SCART)	PAL I [PA] (WITH SCART)	P/S-B/G [LA] (WITH SCART)
RC216	R CHIP	X	X	X	X	X	1/10 68K OHM J
RC217	R CHIP	X	X	X	X	X	1/10 100 OHM J
RC225	R CHIP	X	X	X	X	X	1/10 10K OHM J
RC226	R CHIP	X	X	X	X	X	1/10 7.5K OHM J
RC228	R CHIP	X	X	X	X	X	1/10 22K OHM J
RC229	R CHIP	X	X	X	X	X	1/10 330 OHM J
RC234	R CHIP	X	X	X	X	X	1/10 47 OHM J
RC237	R CHIP	X	X	X	X	X	1/10 750 OHM J
RC501	R CHIP	X	X	X	X	X	1/10 33K OHM J
RC536	R CHIP	X	X	1/10 10K OHM J	1/10 10K OHM J	1/10 10K OHM J	1/10 10K OHM J
RC538	R CHIP	X	X	1/10 10K OHM J	1/10 10K OHM J	1/10 10K OHM J	1/10 10K OHM J
RC541	R CHIP	X	X	X	X	X	1/10 10K OHM J
RC542	R CHIP	X	X	X	X	X	1/10 10K OHM J
RC564	R CHIP	X	1/10 560 OHM J	1/10 560 OHM J	X	X	X
RC702	R CHIP	X	X	X	X	X	1/10 10K OHM J
RC704	R CHIP	X	X	1/10 10K OHM J	1/10 10K OHM J	1/10 10K OHM J	1/10 10K OHM J
RC726	R CHIP	X	X	X	X	X	1/10 24K OHM J
RC727	R CHIP	X	X	X	X	X	1/10 4.7K OHM J
RC731	R CHIP	X	X	X	X	X	1/10 10K OHM J
RC739	R CHIP	X	X	X	X	X	1/10 4.7K OHM J
RC774	R CHIP	X	X	X	X	X	1/10 24K OHM J
RCJ05	R CHIP	1/10 0 OHM 2012	1/10 0 OHM 2012	1/10 0 OHM 2012	1/10 0 OHM 2012	1/10 0 OHM 2012	X
RCJ06	R CHIP	X	1/10 0 OHM 2012	1/10 0 OHM 2012	1/10 0 OHM 2012	1/10 0 OHM 2012	X
RCJ19	R CHIP	X	X	X	X	X	1/10 0 OHM 2012
RCJ26	R CHIP	1/10 0 OHM 2012	1/10 0 OHM 2012	1/10 0 OHM 2012	1/10 0 OHM 2012	1/10 0 OHM 2012	X

LOC.	PART	PAL B/G [HA] (WITHOUT SCART)	P/S-B/G, D/K [DA] (WITHOUT SCART	P/S-B/G, D/K [DA] (WITH SCART)	PAL B/G [FA] (WITH SCART)	PAL I [PA] (WITH SCART)	P/S-B/G [LA] (WITH SCART)
RCJ31	R CHIP	1/10 0 OHM 2012	1/10 0 OHM 2012	1/10 0 OHM 2012	1/10 0 OHM 2012	1/10 0 OHM 2012	X
RCJ33	R CHIP	X	X	X	X	X	1/10 0 OHM 2012
RCJ37	R CHIP	X	X	1/10 0 OHM 2012	1/10 0 OHM 2012	1/10 0 OHM 2012	1/10 0 OHM 2012
RCL02	R CHIP	X	X	X	X	X	1/10 68K OHM J
RCL03	R CHIP	X	X	X	X	X	1/10 2.2K OHM J
RCL07	R CHIP	X	X	X	X	X	1/10 33K OHM J
RCL12	R CHIP	X	X	X	X	X	1/10 10K OHM J
RCL13	R CHIP	X	X	X	X	X	1/10 10K OHM J
RCL14	R CHIP	X	X	X	X	X	1/10 10K OHM J
RCL15	R CHIP	X	X	X	X	X	1/10 10K OHM J
RCL16	R CHIP	X	X	X	X	X	1/10 100 OHM J
RCL17	R CHIP	X	X	X	X	X	1/10 750 OHM J
RCL18	R CHIP	X	X	X	X	X	1/10 15K OHM J
RCL30	R CHIP	X	X	X	X	X	1/10 1K OHM J
RCL31	R CHIP	X	X	X	X	X	1/10 33K OHM J
RCL32	R CHIP	X	X	X	X	X	1/10 12K OHM J
RCL33	R CHIP	X	X	X	X	X	1/10 2K OHM J
RCL34	R CHIP	X	X	X	X	X	1/10 560 OHM J
RCL36	R CHIP	X	X	X	X	X	1/10 1K OHM J
RL01	R CARBON FILM	X	X	X	X	X	1/6 22K OHM J
RL10	R CARBON FILM	X	X	X	X	X	1/6 1K OHM J
RL11	R CARBON FILM	X	X	X	X	X	1/6 1K OHM J
RN04	R CARBON FILM	X	X	X	X	X	1/6 220 OHM J
RN05	R CARBON FILM	X	X	X	X	X	1/6 220 OHM J
RN08	R CARBON FILM	1/6 6.8K OHM J	1/6 6.8K OHM J	1/6 6.8K OHM J	1/6 6.8K OHM J	1/6 4.3K OHM J	1/6 4.3K OHM J

LOC.	PART	PAL B/G [HA] (WITHOUT SCART)	P/S-B/G, D/K [DA] (WITHOUT SCART	P/S-B/G, D/K [DA] (WITH SCART)	PAL B/G [FA] (WITH SCART)	PAL I [PA] (WITH SCART)	P/S-B/G [LA] (WITH SCART)
SF01	FILTER SAW	G1966M	K2950M	K2950M	G1966M	J1592	G1966M
SF02	FILTER SAW	X	X	X	X	X	L 9461-M
SF03	FILTER SAW	G1966M	K2950M	K2950M	G1966M	J1592	G1966M
SF04	FILTER SAW	X	X	X	X	X	L 9461-M
Z203	FILTER CERA	X	X	MKT40MA100P	MKT40MA100P	MKT40MA100P	MKT40MA100P
Z204	FILTER CERA	SFSH5.5MCB-TF21	SFSH5.5MCB-TF21	SFSH5.5MCB-TF21	SFSH5.5MCB-TF21	SFSH6.0MCB-TF21	SFSH5.5MCB-TF21
Z205	FILTER CERA	X	X	MKT40MA100P	MKT40MA100P	MKT40MA100P	MKT40MA100P
Z206	FILTER CERA	TPS5.5MB-TF21	TPS5.5MB-TF21	TPS5.5MB-TF21	TPS5.5MB-TF21	TPS6.0MB-TF21	TPS5.5MB-TF21
Z207	FILTER CERA	X	TPS6.5MB-TF21	TPS6.5MB-TF21	X	X	X
Z501	FILTER CERA	X	SFSH6.5MCB-TF21	SFSH6.5MCB-TF21	X	X	X
Z502	FILTER CERA	SFSH5.5MCB-TF21	SFSH5.5MCB-TF21	SFSH5.5MCB-TF21	SFSH5.5MCB-TF21	SFSH6.0MCB-TF21	SFSH5.5MCB-TF21
Z503	FILTER CERA	X	TPS6.5MB-TF21	TPS6.5MB-TF21	X	X	X
Z504	FILTER CERA	TPS5.5MB-TF21	TPS5.5MB-TF21	TPS5.5MB-TF21	TPS5.5MB-TF21	TPS6.0MB-TF21	TPS5.5MB-TF21
M193	DECK AS	DRP-7103(2HD,SP)	DRP-7103(2HD,SP)	DRP-7103(2HD,SP)	DRP-7103(2HD,SP)	DRP-7203(2HD,SPLP)	DRP-7203(2HD,SPLP)
M201	MASK FRONT	4852057511	4852057511	4852064301	4852064301	4852064301	4852064301
M211	COVER BACK	4852149360	4852149360	4852149321	4852149321	4852149321	4852149321
I701	IC TIMER		1S5255A051	1S5255A051		1S5255A050	
XL01	CRYSTAL QUARTZ	X	X	X	X	X	4.286M 20PPM
RCJ13	R CHIP	X	X	X	X	X	1/10 0 OHM 2012
RC534	R CHIP	X	X	1/10 510 OHM 2012	1/10 510 OHM 2012	1/10 510 OHM 2012	1/10 1K OHM 2012

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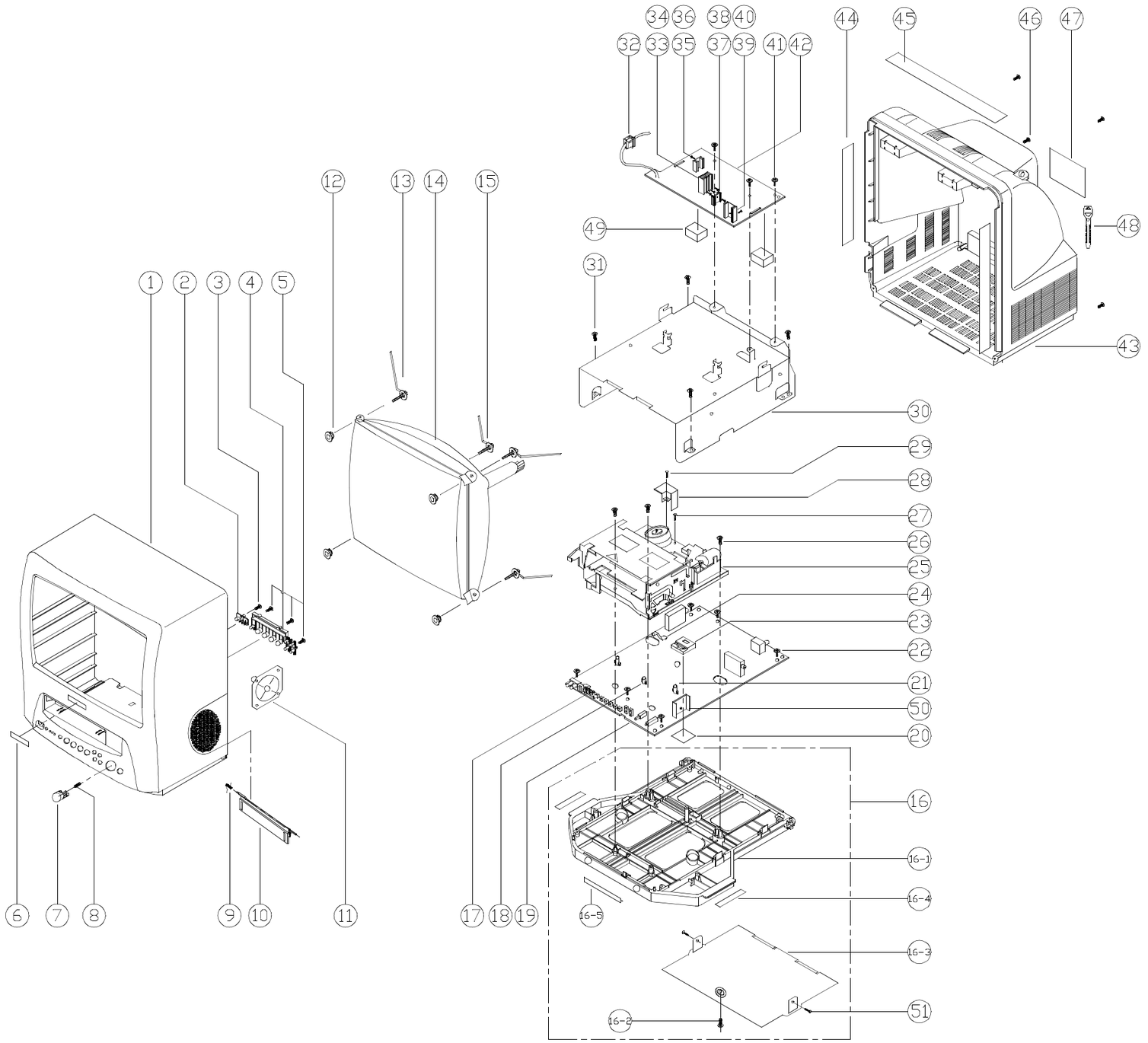

No	PART CODE	PART NAME	Q'ty	MATERIAL	REMARKS
51	7128301212	SCREW TAPPING	2	T2S WAS3X12MFZN BK	30+52
50	4857018900	PLT HT SINK IC	1	AL	
49	4857913304	RUBBER SPONGE	2	13.5X11X30	
48	97P4602700	CLAMP CORD	1	NYLON 66 BLK 5280N	
47	4855415800	SPEC PLATE	1	150ART P/E FILM	
46	7122401612	SCREW TAPPING	4	T2S TRS 4X16MFZN BK	
45	4857817610	CLOTH BLACK	2	FELT T0.7 L=300	
44	4857817611	CLOTH BLACK	1	FELT T0.7 L=200	
43	4852149321	COVER BACK	1	HIPS BK	
42		POWER PCB			
41	7124301211	SCREW TAPPING	3	T2S RND 3X12 MFZN	30+42
40	7174301011	SCREW TAPPTITE	2	TT2 RND 3X10 MFZN	
39	4857024617	HEAT SINK	1	AL EX	
38	7174301011	SCREW TAPPTITE	1	TT2 RND 3X10 MFZN	
37	4857024510	HEAT SINK	1	AL EX	
36	7174301011	SCREW TAPPTITE	1	TT2 RND 3X10 MFZN	
35	4857026900	HEAT SINK	1	AL EX	
34	7174301011	SCREW TAPPTITE	3	TT2 RND 3X10 MFZN	
33	4857027301	HEAT SINK	1	AL EX	
32	97P2316600	HOLDER AC CORD	1	NYLON66 UL/CSA	
31	7122401612	SCREW TAPPING	4	T2S TRS 4X16MFZN BK	16+30
30	4857242900	SHIELD TOP	1	SPTH-C T0.8	
29	7174301011	SCREW TAPPTITE	1	TT2 RND 3X10 MFZN	25+28
28	4857243300	SHIELD COVER	1	SPTH-C T0.3	
27	7124301211	SCREW TAPPING	1	T2S RND 3X12 MFZN	16+25
26	7122401612	SCREW TAPPING	3	T2S TRS4X16MFZN BK	16+25
25	4851923800	DECK AS	1	SVR-K72000	
24	4853948400	BRKT EARTH	1	C5212P-1/2H T0.15	
23	4851923500	SHIELD CASE AS	1	DVN-14F7JA	
22	7128301212	SCREW TAPPING	6	T2S WAS3X12MFZN BK	16+19
21	97P2338200	HOLDER TR	2	ABS	
20	4857242000	SHIELD PLATE	1	SPTH-C T0.3	
19		MAIN PCB	1		
18	97P2339600	HOLDER IR	1	ABS	
17	4853530800	HOLDER LED	1	FR HIPS BK	
16-5	4857817640	CLOTH BLACK	1	FELT T0.7 L=100	
16-4	4857817620	CLOTH BLACK	2	FELT T0.5 L=100	
16-3	4857243000	SHIELD BOTTOM	1	SPTH t0.3	
16-2	7122401612	SCREW TAPPING	1	T2S TRS4X16MFZN BK	16+52
16-1	4853816000	FRAME MAIN PCB	1	FR HIPS BK	
16	4851931601	M/FRAME P ASS'Y	1		
15	4856013302	SCREW CRT FIXING AS	2	L=190MM	
14		CRT (14")	1		
13	4856013300	SCREW CRT FIXING AS	2	L=70MM	
12	4856215402	WASHER RUBBER	4	CR T2.0	
11	4858309110	SPEAKER	1	3W 80HM A30C-560	
10	4851926400	DOOR F/L AS	1	2817701+7823301	
9	4856723100	SPRING F/L DOOR	1	SWPB PIE 0.45	
8	4856715600	SPRING	1	SWPB	
7	4854845801	BUTTON POWER	1	ABS BK	
6	48556136GU	MARK BRAND	1	A1050P-H24	
5	7128301212	SCREW TAPPING	3	T2S WAS3X12MFZN BK	1+4
4	4854930001	BUTTON	1	ABS BK	
3	7128301212	SCREW TAPPING	1	T2S WAS3X12MFZN BK	1+2
2	4851927300	DECO SENSOR AS	1	5526100+781901	
1	4852064301	MASK FRONT	1	HIPS BK	

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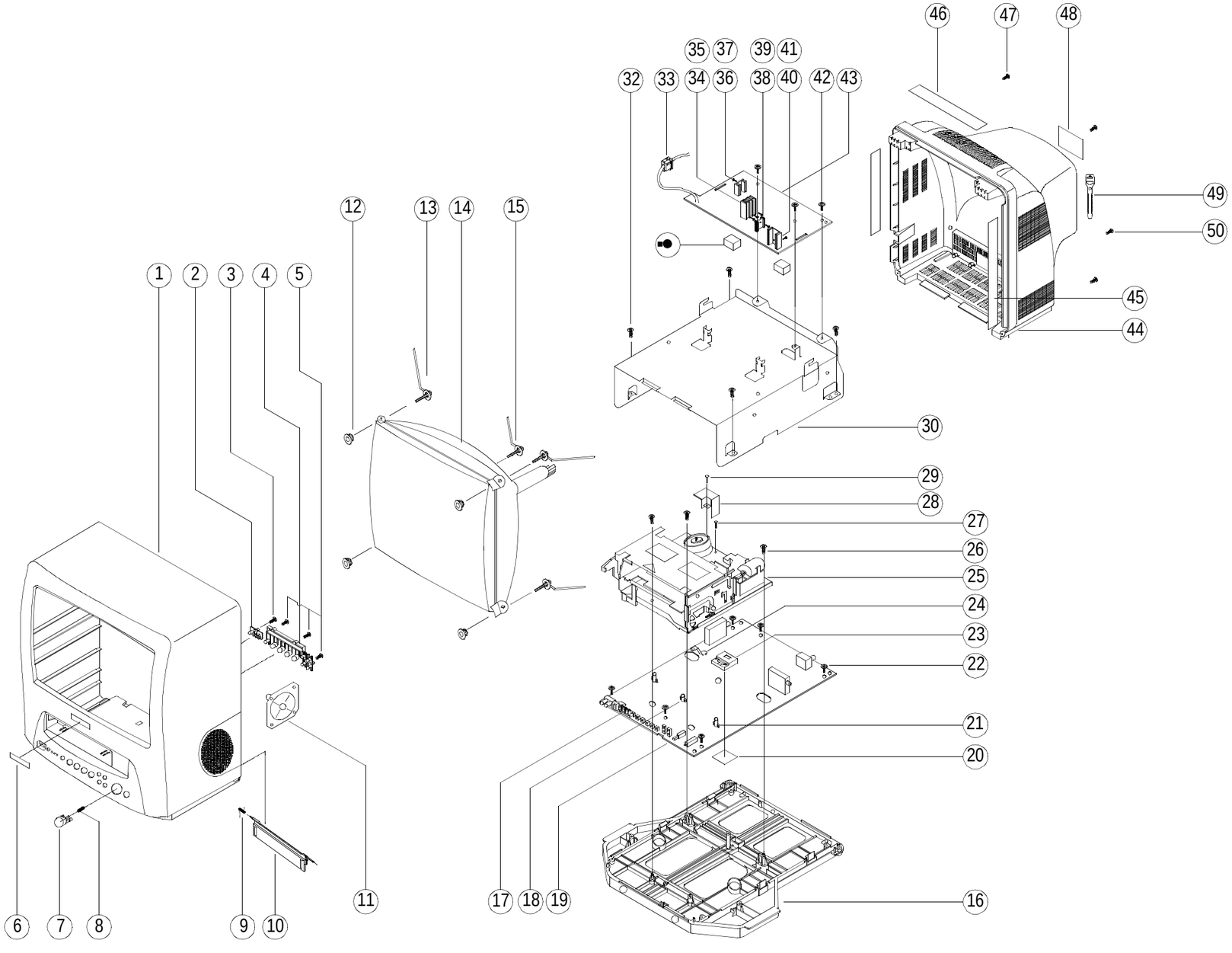

No	PART CODE	PART NAME	Q'ty	MATERIAL	REMARKS
50	7122401612	SCREW TAPPING	1	T2S TRS 4X16 MFZN BK	44+FBT
49	97P4602700	CLAMP CORD	1	NYLON 66 BLK 5280N	
48	4855415800	SPEC PLATE	1	150ART P/E FILM	
47	7122401612	SCREW TAPPING	4	T2S TRS 4X16 MFZN BK	1+44
46	4857817610	CLOTH BLACK	2	FELT T0.7 L=300	
45	4857817630	CLOTH BLACK	1	FELT T0.7 L=400	
44	4852149821	COVER BACK	1	HIPS BK	
43		POWER PCB	1		
42	7128301212	SCREW TAPPING	3	T2S WAS 3X12 MFZN BK	30+43
41	7174301011	SCREW TAPPTITE	2	TT2 RND 3X10 MFZN	
40	4857024602	HEAT SINK	1	AL EX	
39	7174301011	SCREW TAPPTITE	1	TT2 RND 3X10 MFZN	
38	4857024510	HEAT SINK	1	AL EX	
37	7174301011	SCREW TAPPTITE	1	TT2 RND 3X10 MFZN	
36	4857026900	HEAT SINK	1	AL EX	
35	7174301011	SCREW TAPPTITE	3	TT2 RND 3X10 MFZN	
34	4857027301	HEAT SINK	1	AL EX	
33	97P2316600	HOLDER AC CORD	1	NYLON66 UL/CSA	
32	7122401612	SCREW TAPPING	4	T2S TRS 4X16 MFZN BK	16+30
31	4857913304	RUBBER SPONG	2	13.5X11X30	
30	4857242900	COVER TOP	1	SECC T=0.8	
29	7174301011	SCREW TAPPTITE	1	TT2 RND 3X10 MFZN	25+28
28	4857243300	SHIELD COVER	1	SPTH-C T0.3	
27	7124301211	SCREW TAPPING	1	T2S RND 3X12 MFZN	16+25
26	7122401612	SCREW TAPPING	3	T2S TRS 4X16 MFZN BK	16+25
25	4851930100	DECK AS	1	DRP-7103(2HD,SP)	
24	4853948400	BRKT EARTH	1	C5212P-1/2H T0.15	
23	4851923500	SHIELD CASE AS	1	DVN-14F7JA	
22	7128301212	SCREW TAPPING	6	T2S WAS 3X12 MFZN BK	16+19
21	97P2338200	HOLDER TR	2	ABS	
20	4857242000	SHIELD PLATE	1	SPTH-C T0.3	
19		MAIN PCB	1		
18	97P2339600	HOLDER IR	1	ABS	
17	4853530800	HOLDER LED	1	FR HIPS BK	
16	4851931601	M/FRAME PCB AS	1	DVT-14F6/20F6	
15	4856013302	SCREW CRT FIXING AS	2	L=190MM	
14		CRT(20")	1		
13	4856013300	SCREW CRT FIXING AS	2	L=70MM	
12	4856215402	WASHER RUBBER	4	CR T2.0	
11	4858309110	SPEAKER	1	3W 8OHM A30C-560	
10	4851926400	DOOR F/L AS	1	2817701+7823301	
9	4856723100	SPRING F/L DOOR	1	SWPB PIE 0.45	
8	4856715600	SPRING	1	SWPA	
7	4854845801	BUTTON POWER	1	ABS BK	
6	4855615900	MARK BRAND	1	A1050P-H24 T0.4	
5	7128301212	SCREW TAPPING	3	T2S WAS 3X12 MFZN BK	1+4
4	4854930001	BUTTON	1	ABS BK	
3	7128301212	SCREW TAPPING	1	T2S WAS 3X12 MFZN BK	1+2
2	4851927300	DECO SENSOR AS	1	5526100+7817901	
1	4852062601	MASK FRONT	1	HIPS BK	

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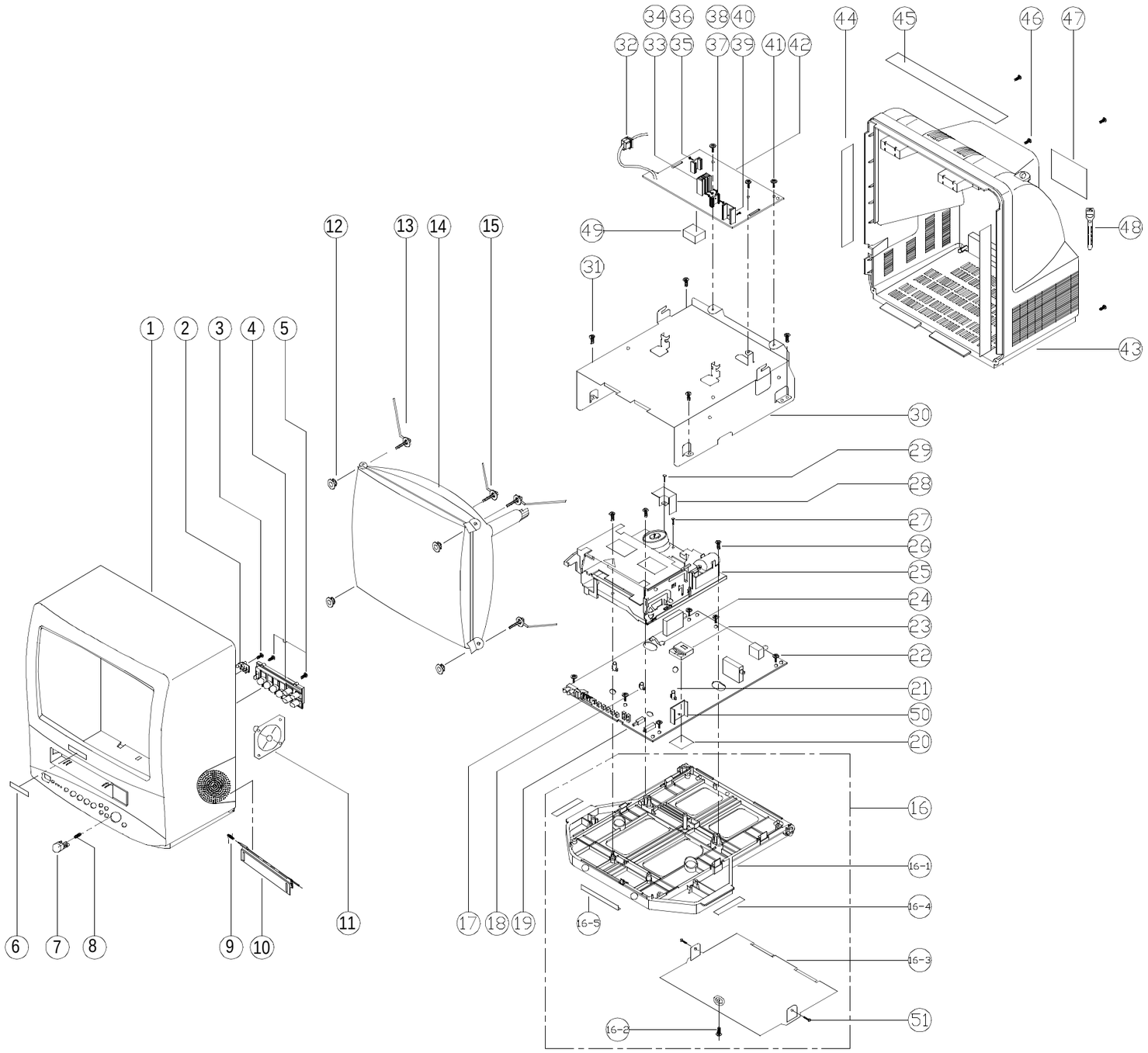
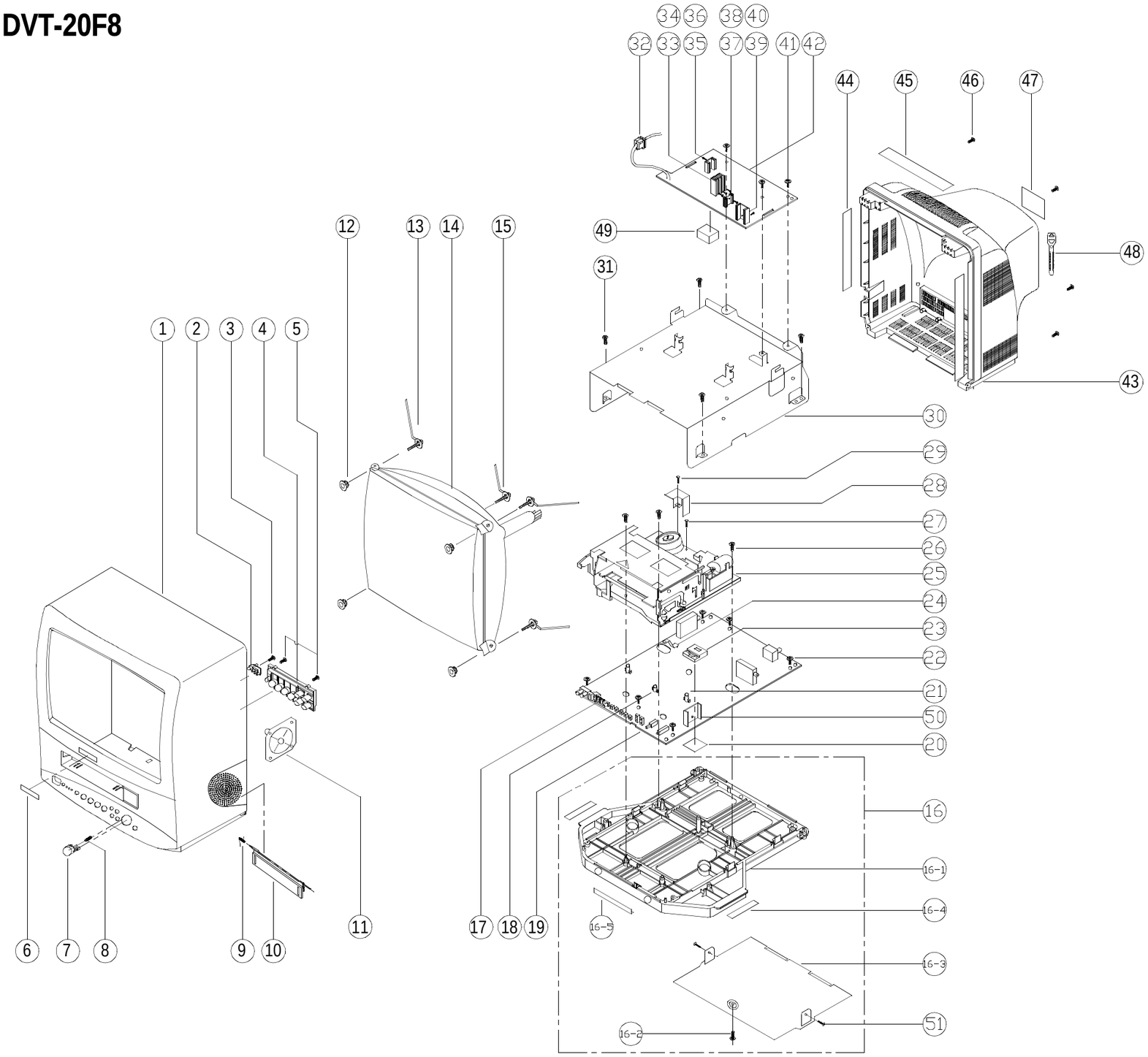


No	PART CODE	PART NAME	Q'ty	MATERIAL	REMARKS
51	7128301212	SCREW TAPPING	2	T2S WAS 3X12 MFZN BK	30+52
50	4857018900	PLT HT SINK IC	1	AL	
49	4857913304	RUBBER SPONGE	1	13.5X11X30	
48	97P4602700	CLAMP CORD	1	NYLON 66 BLK 5280N	
47	4855415800	SPEC PLATE	1	150ART P/E FILM	
46	7122401612	SCREW TAPPING	4	T2S TRS 4X16 MFZN BK	1+43
45	4857817610	CLOTH BLACK	2	FELT T0.7 L=300	
44	4857817630	CLOTH BLACK	1	FELT T0.7 L=400	
43	4852149311	COVER BACK	1	HIPS BK	
42		POWER PCB	1		
41	7128301212	SCREW TAPPING	3	T2S WAS 3X12 MFZN BK	30+42
40	7174301011	SCREW TAPPTITE	2	TT2 RND 3X10 MFZN	
39	4857024617	HEAT SINK	1	AL EX	
38	7174301011	SCREW TAPPTITE	1	TT2 RND 3X10 MFZN	
37	4857024510	HEAT SINK	1	AL EX	
36	7174301011	SCREW TAPPTITE	1	TT2 RND 3X10 MFZN	
35	4857026900	HEAT SINK	1	AL EX	
34	7174301011	SCREW TAPPTITE	3	TT2 RND 3X10 MFZN	
33	4857027301	HEAT SINK	1	AL EX	
32	97P2316600	HOLDER AC CORD	1	NYLON66 UL/CSA	
31	7122401612	SCREW TAPPING	4	T2S TRS 4X16 MFZN BK	16+30
30	4857242900	COVER TOP	1	SPTH-C T=0.8	
29	7174301011	SCREW TAPPTITE	1	TT2 RND 3X10 MFZN	25+28
28	4857243300	SHIELD COVER	1	SPTH-C T0.3	
27	7124301211	SCREW TAPPING	1	T2S RND 3X12 MFZN	16+25
26	7122401612	SCREW TAPPING	3	T2S TRS 4X16 MFZN BK	16+25
25	4851930100	DECK AS	1	DRP-7103(2HD,SP)	
24	4853948400	BRKT EARTH	1	C5212P-1/2H T0.15	
23	4851923500	SHIELD CASE AS	1	DVN-14F7JA	
22	7128301212	SCREW TAPPING	6	T2S WAS 3X12 MFZN BK	16+19
21	97P2338200	HOLDER TR	2	ABS	
20	4857242000	SHIELD PLATE	1	SPTH-C T0.3	
19		MAIN PCB	1		
18	97P2339600	HOLDER IR	1	ABS	
17	4853530800	HOLDER LED	1	FR HIPS BK	
16-5	4857817640	CLOTH BLACK	1	FELT T0.7 L=100	
16-4	4857817620	CLOTH BLACK	2	FELT T0.5 L=100	
16-3	4857243000	SHIELD BUTTOM	1	SPTH T0.3	
16-2	7122401612	SCREW TAPPING	1	T2S TRS4X16 MFZN BK	16+52
16-1	4853816000	FRAME MAIN PCB	1	FR HIPS BK	
16	4851931601	M/FRAME P ASS'Y	1		
15	4856013302	SCREW CRT FIXING AS	2	L=190MM	
14		CRT(14")	1		
13	4856013300	SCREW CRT FIXING AS	2	L=70MM	
12	4856215402	WASHER RUBBER	4	CR T2.0	
11	4858309110	SPEAKER	1	3W 8OHM A30C-560	
10	4851926400	DOOR F/L AS	1	2817701+7823301	
9	4856723100	SPRING F/L DOOR	1	SWPB PIE 0.45	
8	4856715600	SPRING	1	SWPA	
7	4854849901	BUTTON POWER	1	ABS BK	
6	48556136GU	MARK BRAND	1	A1050P-H24 T0.4	
5	7128301212	SCREW TAPPING	2	T2S WAS 3X12 MFZN BK	1+4
4	4851929700	BUTTON CTRL AS	1	4934501+HOLDER BUTTON	
3	7128301012	SCREW TAPPING	1	T2S WAS 3X10 MFZN BK	1+2
2	4851927000	DECO SENSOR AS	1	5532100+7817901	
1	4852063001	MASK FRONT	1	HIPS BK	

DVT-20F8



No	PART CODE	PART NAME	Q'ty	MATERIAL	REMARKS
51	7128301212	SCREW TAPPING	2	T2R WAS3X12MFZN BK	30+52
50	4857018900	PLT HT SINK IC	1	AL	
49	4857913304	RUBBER SPONGE	1	13.5X11X30	
48	97P4602700	CLAMP CORD	1	NYLON 66 BLK 5280N	
47	4855415800	SPEC PLATE	1	150ART P/E FILM	
46	7122401612	SCREW TAPPING	4	T2S TRS 4X16 MFZN BK	1+43
45	4857817610	CLOTH BLACK	2	FELT T0.7 L=300	
44	4857817630	CLOTH BLACK	1	FELT T0.7 L=400	
43	4852149821	COVER BACK	1	HIPS BK	
42		POWER PCB	1		
41	7128301212	SCREW TAPPING	3	T2S WAS 3X12 MFZN BK	30+42
40	7174301011	SCREW TAPPTITE	2	TT2 RND 3X10 MFZN	
39	4857024617	HEAT SINK	1	AL EX	
38	7174301011	SCREW TAPPTITE	1	TT2 RND 3X10 MFZN	
37	4857024510	HEAT SINK	1	AL EX	
36	7174301011	SCREW TAPPTITE	1	TT2 RND 3X10 MFZN	
35	4857026900	HEAT SINK	1	AL EX	
34	7174301011	SCREW TAPPTITE	3	TT2 RND 3X10 MFZN	
33	4857027301	HEAT SINK	1	AL EX	
32	97P2316600	HOLDER AC CORD	1	NYLON66 UL/CSA	
31	7122401612	SCREW TAPPING	4	T2S TRS 4X16 MFZN BK	16+30
30	4857242900	COVER TOP	1	SPTH-C T=0.8	
29	7174301011	SCREW TAPPTITE	1	TT2 RND 3X10 MFZN	25+28
28	4857243300	SHIELD COVER	1	SPTH-C T0.3	
27	7124301211	SCREW TAPPING	1	T2S RND 3X12 MFZN	16+25
26	7122401612	SCREW TAPPING	3	T2S TRS 4X16 MFZN BK	16+25
25	4851930100	DECK AS	1	DRP-7103(2HD,SP)	
24	4853948400	BRKT EARTH	1	C5212P-1/2H T0.15	
23	4851923500	SHIELD CASE AS	1	DVN-14F7JA	
22	7128301212	SCREW TAPPING	6	T2S WAS 3X12 MFZN BK	16+19
21	97P2338200	HOLDER TR	2	ABS	
20	4857242000	SHIELD PLATE	1	SPTH-C T0.3	
19		MAIN PCB	1		
18	97P2339600	HOLDER IR	1	ABS	
17	4853530800	HOLDER LED	1	FR HIPS BK	
16-5	4857817640	CLOTH BLACK	1	FELT T0.7 L=100	
16-4	4857817620	CLOTH BLACK	2	FELT T0.5 L=100	
16-3	4857243000	SHIELD BUTTOM	1	SPTH T0.3	
16-2	7122401612	SCREW TAPPING	1	T2S TRS4X16 MFZN BK	16+52
16-1	4853816000	FRAME MAIN PCB	1	FR HIPS BK	
16	4851931601	M/FRAME P ASS'Y	1		
15	4856013302	SCREW CRT FIXING AS	2	L=190MM	
14		CRT(20")	1		
13	4856013300	SCREW CRT FIXING AS	2	L=70MM	
12	4856215402	WASHER RUBBER	4	CR T2.0	
11	4858309110	SPEAKER	1	3W 8OHM A30C-560	
10	4851926400	DOOR F/L AS	1	2817701+7823301	
9	4856723100	SPRING F/L DOOR	1	SWPB PIE 0.45	
8	4856715600	SPRING	1	SWPA	
7	4854850201	BUTTON POWER	1	ABS BK	
6	4855615900	MARK BRAND	1	A1050P-H24 T0.4	
5	7128301212	SCREW TAPPING	2	T2S WAS 3X12 MFZN BK	1+4
4	4854934801	BUTTON CH	1	ABS BK	
3	7128301212	SCREW TAPPING	1	T2S WAS 3X12 MFZN BK	1+2
2	4851927100	DECO SENSOR AS	1	5532400+7817901	
1	4852063101	MASK FRONT	1	HIPS BK	